

United States
Circuit Court of Appeals
For the Ninth Circuit.

CAL-BAY CORPORATION, MARIA FARIA,
JOSEPH FARIA, JR., EDWARD FARIA
and MAE E. ROCHE,

Appellants,

vs.

UNITED STATES OF AMERICA,

Appellee

Transcript of Record

In Three Volumes

VOLUME II

Pages 433 to 912

Upon Appeal from the District Court of the United States
for the Northern District of California,
Southern Division

No. 11695

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(Testimony of William Herbert May.)

A. If you went to shut it off at a certain place you run another string of casing in and cement the casing.

Q. Isn't it a common and ordinary thing to also run into salt water sands? A. Yes.

Q. Isn't it a fact salt water sand are looked for in the course of drilling oil wells?

A. Yes. Salt water is an indication of an oil field. You don't see it any place else.

Q. If you don't run into salt water sands in the course of drilling oil or gas well you feel somewhat discouraged? A. Yes.

Q. Did you run into a salt water sand at or about the time that this well blowed out, just prior to the last shift?

A. That I don't remember. We had salt water in the well to a certain extent. [273]

Q. Do you know whether Mr. Ed. Mohr made a salinity test? A. Yes.

Q. You don't know what the result of that test was? A. No.

Q. Do you know that tests were made by Mr. Mohr?

A. Mr. Mohr made several tests while in the process of looking at the well. I can't name the date now.

Q. Isn't it also true that in the course of drilling a well that you would find a very hard formation or shale overlying an oil or gas sand?

A. Yes.

Q. Isn't it true that hard formation or shale is

(Testimony of William Herbert May.)

generally known in the oil field practice as the cat?

A. Yes.

Q. You were drilling in a hard formation just prior to the last three or four feet of drilling?

A. That is correct.

Q. Is that your best recollection?

A. Yes.

Q. Along towards November—I forget the date—you had entered a soft formation?

A. Yes, on November 25.

Q. At what step did you enter that soft formation?

A. It says here between 4,951 and 4,975.

Q. You were in the course of coming out of a soft formation, were you not?

A. With the drill pipe?

Q. Yes. A. Yes.

Q. With the intention to make a core?

A. Yes.

Q. Prior to entering the soft formation, had you been drilling—through what formation had you been drilling? [274]

A. Shale.

Q. Was it hard shale or soft?

A. Hard shale. We had to use a rock bit.

Q. When you drill in soft formation you change the type of bit?

A. Yes, yes.

Q. At that time you had entered a soft formation?

A. Yes.

Q. You knew that by the increased rotations of the rotary table, is that it?

(Testimony of William Herbert May.)

A. That is one of the indications, and the formation may be dug with a lot less weight on the bit.

Q. Did you notice any of the sand that came out of the softer formation?

A. Well, we took samples of it.

Q. What kind of a sample was it?

A. Oil sand.

Q. Would you please step up to this blackboard, if you wish, Mr. May, and draw a picture for the Jury of a whipstock, what it looks like when it is set?

A. Say there is a string of casing at this depth (indicating). You want to set a whipstock. You go in and cut the pipe off, like that, at, we will say, 4,400 feet, and you mill out twenty feet, you would just destroy about twenty feet of pipe. That is all washed out in little fine shavings, the same as you would take a pencil and cut a piece out of it. You cut a piece out. Then you take your whipstock—say you want to go out this way, your whipstock is bevelled at a three degree angle. The whipstock is set in this hole. This particular whipstock [275] when you set it was at a slant, like that. You go down here with the bit the next time after it is set, and it hits the edge of the whipstock and gradually digs out—it comes down to the bottom of the twenty feet and you have put the casing in a new territory, and this whipstock had some slips, that is what we call slips, they are conical wedges, you have a little wedge in the pipe so it won't go down the hole, those slips extend down here three or four

(Testimony of William Herbert May.)

feet; also over the slip that is still extending up here there are some hangers on the whipstock because of an extra safeguard. The whipstock extends up here about two feet above where the pipe is cut off, so you have no chance of hitting the edge of the casing with your drill stem or bit or anything like that.

Q. When you come to the outside of that old casing you start making a new hole parallel on along the same one, just outside of the old one?

A. Yes.

Q. What happened to the old hole?

A. It is abandoned. This old hole was plugged off, cement plugging.

Q. Cement plugging. That is all.

Recross Examination

By Mr. Bourquin:

Q. Mr. May, you drew our attention to certain diagrams. How do drillers in their parlance distinguish between a section and a window?

A. That is just a term that we use. A window, we say we cut a window in the pipe. That is a term that is used in the oil field. [276]

Q. Do drillers distinguish between a section and a window? A. It is all the same.

Q. All the same. In other words, you mean to say that if they say they cut a window it means as if they said they have milled a section?

A. Yes. That is, in this state that is exactly right.

(Testimony of William Herbert May.)

Q. Is that the usual practice? A. Yes.

Q. That has been your experience?

A. Yes.

Q. You said something in answer to Counsel that you had been examining sands, that is, you were down there, from the time you got through this shale and into the sand again, you said there was an oil sand. What did you mean? What do you mean by "oil sand"?

A. Oil sand is sand that oil comes out of.

Q. That oil comes out of. Will examine your log? Do you find on your log any such record that oil sands had been found in the exploration at the date you are talking about?

A. No, I don't think we kept any record at all of that. The samples were put in little bags and given to Mr. Faria and I think they were sent to, I don't know where he sent them to get them tested.

Q. The log is silent on the subject is it?

A. Sir?

Q. The log is silent on the subject. The log is silent on that subject.

Mr. Scampini: I submit the log will speak for itself. [277]

Mr. Bourquin: I am asking the witness.

Mr. Scampini: Well, he has not had a chance to look through 175 pages of the log, your Honor.

Mr. Bourquin: Well, if that objection is serious and your Honor rules, I will give the witness the opportunity to examine the log.

(Testimony of William Herbert May.)

The Court: No. I think the witness had already answered the question. I think he said it was not put in the log. You said that, didn't you?

The Witness: I don't know whether it was put in the log. I don't remember a lot of those things. The main thing I was interested in was drilling the well. The engineering department generally takes care of those things.

Q. (By Mr. Bourquin): Will you draw my attention, please, in the log to the place where you answered Counsel that the log showed building up mud after the spotting of the oil on the 27th?

A. "Mud weight 113 pounds. Viscosity 45."

Q. What date are you looking at, and what year?

A. That was right—the daylight shift on the 27th.

Q. The daylight shift on the 27th?

A. No, wait a minute. That is the wrong page.

Q. What is that indication? Do you mean to say that that is an indication it was circulating?

A. Yes.

Q. After the oil was spotted, the graveyard shift on the 27th, when then do you find any record that indicates mud being [278] built up?

A. After the oil was spotted?

Q. Yes.

A. The oil was spotted on the afternoon shift on the 27th.

Q. That is really the night shift?

A. Yes.

(Testimony of William Herbert May.)

Q. Four to twelve night shift, midnight.

A. Yes. So we would not build up any mud during that time.

Q. When was it after that, as you answered Counsel, that you saw the record indicating to you mud built up to circulation, where was that?

A. On the 28th, the daylight shift.

Q. The daylight shift? What was the reading?

A. "Mud weight 113. Viscosity 64".

Q. Do you mean to say it was the way you kept the log that when the mud weight and viscosity was entered, that the mud was in circulation and being moved?

A. Yes.

Q. Then it follows that on shifts where there is no mud weight or viscosity entered, that the mud was not in circulation, does it?

A. I wouldn't say that, because sometimes they didn't put it down. You probably can see lots of pages where they won't put that on there.

Q. Let's look at that. You called our attention to—that was November 27, Tour 3, the graveyard shift?

A. The graveyard shift. Tower is the afternoon shift.

Q. That's right. Night shift or afternoon shift. The entry of operations reads "spotted oil unload baroil". Is that correct?

A. Yes. [279]

Q. Where?

A. That was brought up on a truck and we were unloading it.

Q. On the property?

A. Yes.

(Testimony of William Herbert May.)

Q. On that date there was no mud weight or viscosity recorded? A. No.

Q. The day later——

A. I don't know. Sometimes we put it down. The entry the day before is 113 and the day before that 114.

Q. Now, turn to the first shift on November 28. That also has no record of mud weight or viscosity?

A. That's right.

Q. But the middle shift that day has the entry, "Mud weight 113. Viscosity 64". Then again the night shift of the 28th, the afternoon shift, has no entry of mud weight and viscosity, has it?

A. No.

Q. Will you turn again to the morning shift on November 29, the graveyard shift? That shift has no entry of mud weight and viscosity?

A. Correct.

Q. Do I understand your interpretation that because you see mud weight and viscosity on the log on the day shift of the 28th it was after the oil was spotted, that that is proof that the mud was circulating? A. Yes.

Q. But you say that when you do not see that it does not mean anything; when you do not see a mud weight and viscosity entry it does not mean anything with respect to circulation, is that your contention?

A. No. They simply neglected [280] to put it

(Testimony of William Herbert May.)

down. That is all the answer I can give for it. It does not indicate anything as far as I can see.

Q. How do you weigh that mud?

A. You have a device, scales, to weight it.

Q. On top of the property, the surface?

A. Yes.

Q. By dipping it?

A. Yes, just dip up a certain amount of your mud, put it in your scales and weight it.

Q. You dip up some of the mud into a container?

A. No, the scales, they have in the oil fields to weigh mud——

Q. You pick up your mud and put it on the scales? A. In a container, yes.

Q. Well, it is not in the mud stream?

A. You take the mud out of the mud stream.

Q. You don't weigh it in the mud stream?

A. No.

Q. You take it out? A. Yes.

Q. You could weight it coming in or coming out?

A. Yes.

Q. You could weight it in the pit before it goes down the drill pipe or you could weigh it in the pit after it comes out of the drill pipe, you dip it from the pit?

A. Either that or the mud stream out of the ditch.

Mr. Bourquin: I think that is all.

Mr. Scampini: No further questions. [281]

WILLIAM G. BRADFORD

called as a witness on behalf of defendants; and having been first duly sworn, testified as follows:

The Clerk: Q. Will you state your name to the Court and Jury?

A. William G. Bradford.

Direct Examination

By Mr. Scampini:

Q. Where do you reside?

A. Whittier, at the present time.

Q. What is your usual business or occupation?

A. Oil business.

Q. How long have you been in the oil business?

A. I believe since about 1914.

Q. What have you done in that business?

A. Well, driven mules, laid pipe lines, dug sump holes, cleaned out wells, pulled wells, repaired them, drilled them and produced them. [282]

Q. In what fields have you worked?

A. Well, I have worked, I will say, in practically all the major fields of California, which are Bakersfield, Colinga, Ventura, Santa Barbara, Santa Maria, Huntington Beach, Whittier, Montebello, Coyote, Richfield, Texas, Oklahoma, Old Mexico, Venezuela—quite a few places.

Q. You say you have been working since you were fourteen years of age. How old are you now?

A. 50 years old.

Q. Are you still active in the drilling business?

A. Well, not for the last year, not too much. I had a little heart attack about a year ago and I have had to cut it down quite a bit.

(Testimony of William G. Bradford.)

Q. In the course of your activities have you acted as driller? A. I have.

Q. Have you brought wells into production?

A. I have.

Q. How many wells would you say you have brought into production?

A. Well, I would hate to estimate. I would say probably 50 or 75.

Q. Do you engage in the purchase and sale of oil properties?

A. I have in the last seven or eight years, for the reason I lost an eye in the building department, and I tried to get away from that.

Q. Do you own oil properties? A. I do.

Q. Do you own royalties? A. I do.

Q. Have you bought and sold royalties?

A. I have.

Q. Have you bought and sold oil leases?

A. Yes, sir. [283]

Q. Have you bought oil leases for major producers? A. I have.

Q. Have you sold any leases or royalties to the major producers? A. Yes, sir.

Q. In what fields have you engaged in transactions of that character?

A. Oh, various fields throughout the State of California, here, and in New Mexico.

Q. How many leases would you say you have bought and sold in the last seven years in California?

A. Well, I would estimate that I have handled, oh, in the neighborhood of 200,000 acres.

(Testimony of William G. Bradford.)

Q. Do you often or do you ever go out and lease entire blocks for major companies?

A. I do.

Q. What is the usual procedure followed in those instances?

A. Well, we just go out and lease it up.

Q. What do you lease?

A. We take the mineral rights, take a lease on the mineral rights for the oil and gas.

Q. Do you take a block of leases on structures?

A. Well, we take what we think to be on a structure from the best information we can obtain, and our own knowledge, myself. We will go in and block up an area that we desire to lease and we call that our building block.

Q. What factors do you take into consideration when you determine to go out and lease up a block of land?

A. All the geological information that I can get hold of: Water well logs in the surrounding country that we are working in, logs of old wells that have been drilled nearby—all of that is summed up, brought down, and then we try to figure if we are on trends with other fields, and on-trend means an awful lot to us in this state, because the majority of the oil and gas fields in this state run northwest and southeast. Very few of them run due east-west or due north-south.

Q. Do you generally determine the outline of a structure before you start leasing?

A. We try our best to.

(Testimony of William G. Bradford.)

Q. Then what land do you take under lease after you have made that determination?

A. All that we can possibly get within the scope we think to be good.

Q. If land appears to be off of the structure do you go after it?

A. No, I wouldn't be interested.

Q. If land appears to be faulted do you go after that?

A. Sometimes. That depends on what particular field you are working in.

Q. Explain, please.

A. Well, you might have a series of block faults. You might hold some property lying against a fault, and it has been drilled on the other side and proved there was no oil or gas over there. Maybe that is a block fault and the oil may be on the north side or the south side, and you want to get on the opposite side and pick that land up.

Q. You know, of course, Mr. Joseph Faria?

A. I do.

Q. Did you do some work for the Cal Bay Corporation?

A. I did.

The Court: Counsel, before you proceed with this examination I would like to inquire whether this witness is going to [285] be a witness who will give his opinion as to his values.

Mr. Scampini: Both as to what he has done and also as to value.

The Court: I want counsel to know that the court will have in mind limiting the number of

(Testimony of William G. Bradford.)

experts who will give opinion testimony as to value, because otherwise the case could extend out too far, and if one side wanted to produce three or four experts, it would result in the other side doing the same thing, and I think that a reasonable limitation on each side should be two experts to give their valuations, unless counsel have some other reasons for stating otherwise.

Mr. Bourquin: I think that is enough, your Honor.

The Court: I say that because maybe you would have two experts that you really would want to present, we will say, as to valuation, and then you would produce a witness whom you might call to use for two purposes, and be shut out. I think it is always well for counsel to know that. The law provides that the court has discretion in that matter. In practically every condemnation case that I have presided over we have limited the number of experts as to opinion of value to two in number, because I think counsel will readily see that there is no limit to the number of persons whose opinions you could present, and all that would mean would be a long string of people coming in, and one side would want to meet the other side with a similar number, and we would be here for an indefinite period of time. With that in mind, I was wondering whether you want to use this witness for valuation. I am not saying whether you should or you should not.

Mr. Scampini: I was going to say, your Honor, I had two geologists and petroleum engineers to use

(Testimony of William G. Bradford.)

as experts, and I also intended to use Mr. Bradford, because he is what is known as a practical oil man, as distinguished from a geologist and petroleum engineer who figure out their computations theoretically. This is a man who deals in those things. I had intended to use the two experts mentioned and Mr. Bradford as one who works in the field of valuation from a practical and operative point of view, and I do not think that is an unreasonable request, if I may so respectfully submit, your Honor.

The Court: How many experts did you expect to use as to value?

Mr. Bourquin: Two, your Honor, but unfortunately in these cases, as your Honor knows, the way the evidence is handled, if one side feels that they are entitled to meet as many as the other fellow uses on the same subject, it does so. I think two would be plenty, myself, but I would like a ruling on that rather than make a concession about it.

The Court: Of course, this witness is going to testify to some factual matters concerning his connection with this particular well.

Mr. Scampini: Yes, your Honor, and he is in a position, I [287] respectfully submit to your Honor, to make determinations.

The Court: It may be that he might be a witness that you would want to use. I am just thinking in terms of numbers of witness, that is all. The testimony of expert witnesses as to value usually does not take very long, because you just have the witness

(Testimony of William G. Bradford.)

testify as to his experience and then ask him what his valuation is, and what he bases it on, and that is that; but it is the number of them that we are interested in. If you have three, then the other side, of course, if they want to have three——

Mr. Scampini: I have no objection to the other side having three or four, for that matter. It is wholly up to the court.

The Court: I have an objection to that. It takes too long, and one good witness is better than a dozen bad ones. Have you other witnesses here? I mean are they available?

Mr. Scampini: Mr. Norris is here today and Mr. John H. Wentz will be here. Mr. Wentz, the appraiser, will be here Tuesday. Mr. Lowe is here today.

The Court: You mentioned three names.

Mr. Scampini: Mr. Wentz and Mr. Lowe worked together. One did the field work.

The Court: There will be only one witness?

Mr. Scampini: There will be only one witness for the purpose of appraisal.

The Court: This witness, Mr. Wentz—— [288]

Mr. Scampini: And Mr. Norris, the geologist.

The Court: Will be the two experts as to valuation?

Mr. Scampini: That is right, your Honor.

The Court: Does counsel object? You do not have to use three if you do not want to.

Mr. Bourquin: No, we do not object, your Honor. We just hope it will be confined, because these witnesses usually take a long time.

(Testimony of William G. Bradford.)

Mr. Scampini: If it please the court, at the opening of the trial your Honor asked us how long you thought the trial would take, and I replied to your Honor that I thought it would take between two and three weeks. I had in mind the number of witnesses we had. Half of our witnesses have not been heard yet. I cannot hurry it any more than I have been doing it, your Honor. I am trying to expedite the matter as fast as I possibly can do so without indulging too much on the court or the jury.

The Court: Without going into too much detail, you say you have a large number of other witnesses. On what subject are they going to testify?

Mr. Scampini: Mr. Norris will have to testify on all the work he has done in the geology of this structure which led to Mr. Faria drilling this well. That will take a whole day.

The Court: He is going to testify as to valuation?

Mr. Scampini: Yes. [289]

The Court: You spoke of other witnesses.

Mr. Scampini: I have Mr. Johnson, of the Johnson Formation Tests, who will be here Tuesday, and who will testify as to the result of the formation test.

The Court: He will be a short witness?

Mr. Scampini: We have Mr. Ed Mohor, as to the building up of the mud and the reasons for it. That will be another hour's examination. Then we have Mr. Bender, of the Bender Drilling Company, as to the reasonable cost of drilling the well. And

(Testimony of William G. Bradford.)

I just can't waive that type of testimony. Your Honor has ruled that Mr. Faria's testimony is not qualified. I will have to bring in an expert on it.

Mr. Bourquin: Have you any other witnesses besides those that you have mentioned, Counsel?

Mr. Scampini: Then we have the valuation men, Mr. Norris, who will take only a few minutes on that subject, because his testimony will have already gone in, and we have Mr. Wentz, who will fix values. It might take to Wednesday or Thursday.

The Court: I think in view of the circumstances it would not be unfair to limit the number of witnesses who will testify as to value to two on each side, and that will be the order of the court.

Mr. Scampini: I desire the record to note an exception to your Honor's ruling. It will seriously handicap the presentation [290] of our case.

The Court: If it develops that we have not finished the case, if it should appear at any time that there is any real prejudice involved after the witness has testified, you may renew your application to produce another expert.

Q. (By Mr. Scampini): Mr. Bradford, will you please state in what capacity you went to work for the Cal Bay Corporation?

A. Well, I went there to take charge of this well to see what I could do toward cleaning it out and maybe drilling it on down to the gas zone, which I was told they tapped.

Q. When did you arrive there?

A. I believe it was about the first of November or December, somewhere along there.

(Testimony of William G. Bradford.)

Q. December? A. December.

Q. What did you do immediately upon your arrival?

A. Well, I looked the situation over to see what was to be done.

Q. What did you observe and what did you do?

A. Well, I seen they had had a blow-out there of some kind. It looked like it might have been a good-sized one to me from the evidence of mud and spray and stuff that was scattered around. Their pipe was in the hole stuck, and I was told by a Mr. May——

Mr. Bourquin: Just a minute. What he was told we move, your Honor, that it be ruled out as hearsay. We object to it.

The Court: Yes.

Q. (By Mr. Seampini): Did you discuss the subject with the [291] head driller?

A. I discussed it with Mr. May and Mr. Faria.

Q. Did you try to obtain all the information available concerning the well? A. I did.

Q. What did you do in an effort to obtain that information?

Mr. Bourquin: We submit, your Honor, at this time what the witness did is irrelevant and immaterial. What he saw and what he found is something else. I will object to what he did in the obtaining of permission as irrelevant and immaterial.

The Court: The witness would be entitled to testify as to what he saw there as to conditions and

(Testimony of William G. Bradford.)

what he did, yes; conversations with persons connected with the company would obviously be hearsay.

Q. (By Mr. Scampini): Proceed.

A. I felt from talking with Mr. May and Mr. Faria that the pipe was stuck 200 feet off the bottom of the hole.

Mr. Bourquin: Your Honor, in order to be consistent we move that that be stricken as hearsay. He said he found from talking to others that such and such was the case.

The Court: I think that is hearsay. It is a justifiable objection.

Q. (By Mr. Scampini): Did you check the log of the well? A. I did.

Q. What did you do in that respect?

A. Well, I tried to get the pipe loose.

Q. What did you do in respect to checking the log? What did [292] you do?

A. I looked at it for well depths, to what had been going on previously, and what they had entered in the book.

Q. Then what did you do after you made your investigations?

A. Well, I lightened up the mud. I found the weight of the mud they had there—I could see they had small circulation, and the mud, I thought, was awful heavy, and by lightening the mud a bit would increase the circulation and might help them to free the pipe and the bit that was stuck.

(Testimony of William G. Bradford.)

Q. What was the weight of the mud when you first tested it? A. 115 pounds.

Q. To what weight did you reduce the mud?

A. To 100 pounds.

Q. What happened when you reduced it to 100 pounds?

A. She increased her flow, and I seen the well was going to start to blow again and I immediately closed the well in and we mixed up heavy mud.

Q. What did you do to close it in?

A. I told the boys to close the gate.

Q. What gate?

A. The Reagan control head.

Q. And then you say you built the mud up again? A. That is right.

Q. To what weight? A. 115 or better.

Q. Did you find that the weight of 115 pounds was necessary to keep the well under control?

A. I did.

Q. When you found that what did you do?

A. Well, we brought it up to that, and I started working on the pipe to loosen it.

Q. Describe what you did.

A. Well, I took the tongs that [293] were on the derrick, that we screw the drill pipe together with, and put them on the Kelly. The Kelly is sticking out through your rotor table. The Kelly is square. The rotor table turns, and by rotating the table, putting the tongs on there, I put all the torque around there I could possibly put on those tongs and tied the tongs on the corner of the derrick

(Testimony of William G. Bradford.)

and then by picking up on it, that would have a tendency to rotate the pipe, maybe all the way to the bottom of the well, which they hadn't tried, and when I did that, that moved the pipe probably a half turn or a quarter turn, and immediately killed what circulation I did have. Then I called in the Haliburton people.

Q. What did the Haliburton people do?

A. They have high pressure pumps.

Q. What pressure did they build the pressure up to? A. I would say around 4000 pounds.

Q. Were they able to regain circulation?

A. No.

Q. When you were not able to regain circulation what did you do next?

A. I began to left-hand the pipe out, take it out by left-hand thread.

Q. Describe that process.

A. We take a light strain on the pipe and turn it to the left and unscrew as much as we can unscrew, hoping to get it all if we could, but it so happens you never do, and then you get a string of left-hand pipe—that means that has thread cut opposite your right-hand [294] thread—and by taking up on the right-hand thread that is in the hole, you rotate it off below, and it comes up a piece at a time, or whatever you can get.

Q. Did you follow that process? A. I did.

Q. How many pieces did you get out?

(Testimony of William G. Bradford.)

A. I removed the pipe down to 4150, somewhere within a few feet of that. That may be off a little bit.

Q. Does the log indicate that?

A. The drillers did the writing in the log. I didn't.

Q. When you arrived at 4150 or thereabouts what did you ascertain?

A. I found the condition of the hole—that the pipe was collapsed at that depth, the casing where the window had been cut in this casing.

Q. In which the whipstock had been set?

A. Where the whipstock had been set, the casing had collapsed agin our drill pipe.

Q. How did you know it was collapsed?

A. I determined that by running in a blank joint of a smaller diameter pipe than the casing, running it in on the bottom of my drill pipe and going down until I got to that spot and gave it weight. Had the hole been round and not collapsed, I would have come out of the hole with the joint round, but my joint, when I shoved it in, it mashed it flat, the bottom end of it, and when I pulled it out it proved to me the pipe had collapsed at that depth.

Q. Have you formed any opinion as a result of the work done by you in that well as to the cause of the collapse of that casing? [295]

A. Yes, by a gas blow-out.

Q. Please state how you arrived at that conclusion?

(Testimony of William G. Bradford.)

A. If I may use your blackboard, I can give you a little more information on it. I can't draw. What I do will not be too good.

(The following testimony was given at the blackboard.)

This represents your strain, known as your water strain. That at one time was landed, we will say, 5000 feet. I don't know what depth it was landed at. I will use that as the figure. This is the surface of the earth. The hole was drilled. This pipe here landed at 5000 feet, and should have been cemented, which it may have been. I don't know. Anyhow, something goes wrong in this hole in the first place, and they can't use it any more. So the question was to get out of this, save all the hole you can save, and drill a new one. And the way they did it, they removed what we call a section or a joint of this continuous water strain, and by removing that they use mills—these people contract part of that—I did it, myself—and they have patented whipstocks. The particular whipstock they used there I don't know for sure, but I believe the Baas Ross Company set it. They make that their business. This whipstock was set in. And where this window was cut—we call it a window in oil terminology—where that window was cut, in my opinion, was a bad shale body—this is the formation of the earth—there was a heavy shale body of brittle shale [296] that is very easy to slip, and especially if you let your mud weight get down the least bit, too thin or too

(Testimony of William G. Bradford.)

light—in other words, if your mud gets too thin, this shale will slide in all the time and keep coming down this hole here.

Now, at the time they stuck this pipe—this hole comes on down like this—this represents your bit, this represents approximately 200 feet this bit was off the bottom—this was supposed to have been the sands that I know—I don't know, but I understand they had been drilling in. When this well blew, the gas coming up through here would naturally follow into it, and this being open through here in a 20-foot section, in a bad section of shale, which is easy to disturb, with that heavy flow of gas coming through there it would naturally create a cavity in here by bringing that shale up, shoving it up the chimney, like a siphon, and taking it out of this hole, blowing it in the air, and after the cavity was created there, this thing would slide over, either that way or this way. That was blown out and would slide over here, pinching this casing down like this. It would be pulled right agin this piece of pipe, because this was all blown out here. It kept dropping in and blowing out, and dropping in and blowing out, as the gas came up, and that is what collapsed the pipe.

I was able to remove this pipe, here. Their drill stuck down about. I would say, about six or eight feet—here would be the top of the whipstock—about six or eight feet above [297] the whipstock there were joints. There were joints every so many feet of this pipe. One joint comes out eight or ten

(Testimony of William G. Bradford.)

feet from the top of this window here, and that was the pipe I was able to get at, and when I got to this place where this pipe had mashed in, it had gone in like that, and naturally it would mash the pipe down there with nothing in it. By giving it weight up here, shoving it in, it would collapse and make it flat.

Q. (By Mr. Bourquin): You mean the hole is flat?

A. I could see the pipe was collapsed, and I said, "That part of your well from that point down is no good. I can't clean it, Mr. Faria. I can't clean that, Joe. You are done as to that part of the hole."

Q. (By Mr. Scampini): When you discovered that the casing was collapsed at or about the place where the whipstock had been set, what, if anything, further did you do in respect to trying to clean the hole?

A. I didn't make any further effort to clean that hole at all. It wouldn't be worth it.

Q. Were you there on or about December 15, 1944, on the premises? A. I believe I was.

Q. Were you working at the well?

A. I think I was working there at that time.

Q. What had been your recommendation to Mr. Faria in respect to drilling further?

Mr. Bourquin: I object to that, your Honor, as irrelevant [298] and immaterial. I have no objection to his putting his views in the form of an opinion, but his recommendation is immaterial. It is hearsay.

(Testimony of William G. Bradford.)

The Court: That is true.

Q. (By Mr. Scampini): Have you made some recommendations to Mr. Faria in respect to further drilling?

Mr. Bourquin: I object to that as irrelevant and immaterial.

Mr. Scampini: I am not asking him to state the recommendation, your Honor. I just asked him if he did make some recommendations.

The Court: All right. Overruled.

The Witness: I did.

Q. (By Mr. Scampini): Had Mr. Faria made his decision as yet, if you know?

Mr. Bourquin: I object to that as calling for the opinion and conclusion of the witness as to what was in the other man's mind.

Mr. Scampini: That objection is probably good. I will withdraw the question, your Honor.

Q. On or about December 15, 1944, what, if anything happened in your presence at the well?

A. I don't know the exact date now. I can't say. That has been a long time ago, and I have been a sick man part of the time since then, and a lot of deals and other jobs I did. I can't say the exact date or hour. [299]

Q. Tell us what happened of an unusual character at or about that time?

Mr. Bourquin: Will counsel indicate what he is directing his inquiry to? The question asked as to what if anything unusual happened seems to us to call for anything.

(Testimony of William G. Bradford.)

The Witness: I wasn't there at the time——

Mr. Bourquin: May I interrupt the witness and ask for a ruling?

The Court: If it calls for a conversation with someone it would not be material. It is some physical fact you wish to develop?

Mr. Scampini: Yes.

Q. Were there any notices served upon you by a representative of the Navy at or about December 15, 1944?

A. Well, a Navy man came up there. It was either the Navy——

The Court: Isn't that all agreed to?

Mr. Bourquin: That is conceded, your Honor. The stipulations are in here. They were made in September.

Mr. Scampini: May it please the Court, I am going to reserve my decision as to whether I shall use Mr. Bradford as a valuation expert. I may want to recall him for that purpose.

The Court: I would suggest that you do that and see how we get along.

Mr. Scampini: You may take the witness.

The Court: Counsel says he is not going to examine this [300] witness as to valuation.

Mr. Scampini: At this time, your Honor. I may elect to recall him for that purpose.

Mr. Bourquin: With that likelihood does your Honor want me to proceed to examine the witness at this hour, with the possibility of his coming back?

The Court: I think so.

(Testimony of William G. Bradford.)

Cross-Examination

By Mr. Bourquin:

Q. Mr. Bradford, were you connected with any company but yourself at that time?

A. No, sir.

Q. In other words, you were a freelance or doing your own business?

A. On my own at all times.

Q. Is that the way you have always operated in your experience in the oil fields? A. No, sir.

Q. You have, of course, been employed by others?

A. Been on the payroll many, many years.

Q. Coming back to this matter that you have testified to on the blackboard—I do not know whether we need to pull it out or not unless you think it is necessary—you said that it was your opinion, from the fact that your weight was stopped at a point just above the window, that the casing was collapsed at the window, is that correct?

A. I didn't say anything about any weight at all.

Q. Your device that you lowered, what was that, again?

A. That was a point of pipe on the bottom of our string of [301] drill pipe.

Q. That is what I mean. A. Yes, sir.

Q. It was your opinion from the fact that your joint of pipe would not pass a point just above the window that the casing was collapsed at that place?

A. Yes, sir.

Q. You did find, did you, when you backed out

(Testimony of William G. Bradford.)

or pulled out the old drill pipe that you could not get out, which was below the window, through the window, and to some extent above the window?

A. That is right, a few feet above the window.

Q. In other words, you found that drill pipe stuck?

A. That is right.

Q. In the hole at that place?

A. That is right.

Q. And you found the hole to be blocked when you lowered your other pipe?

A. That is right.

Q. In other words, if that pipe stuck there, it was so stuck that that old drill pipe did not leave room for your pipe to go past it and on down, is that correct?

A. Well, the drill pipe filled up the majority of the hole, and my pipe went down over the stub that was sticking up in there probably three or four feet, until it came to where the other pipe had pinched in on it from collapsing.

Q. It went down on the stub?

A. The stub of the drill pipe left in the hole sticking out through the window.

Q. You concluded your pipe that you let down entered the top of the drill pipe remaining there——

A. It didn't enter it, no. It went over it. [302]

Q. It went over it?

A. That is right.

Q. It was something that was larger than the old drill pipe?

A. Oh, yes.

Q. What was the diameter of the pipe that you let down?

(Testimony of William G. Bradford.)

A. I don't know offhand the diameter, but it was big enough to go over the joint of the blown end on the piece of drill pipe that was sticking up.

Q. How big was that drill pipe?

A. Probably three inches in diameter.

Q. O.D.? A. O.D.

Q. Outside diameter?

A. I will say three inches.

Q. So your pipe was bigger than that?

A. My pipe was larger in I.D., so as to go over that stub of drill pipe sticking up.

Q. What was the inside diameter of your pipe?

A. I don't know, probably $3\frac{1}{2}$, $3\frac{3}{4}$, maybe 4 inches, something like that.

Q. How far above the window did you say this pipe remained, the old pipe?

A. I don't know, three or four feet, I forget the exact feet. It might have been up to 6 or 7 feet. I don't know for sure. But it was sticking past my window where the whipstock was at.

Q. In other words, sticking up some distance above the window, and below that window that whole pipe had turned on a tangent, hadn't it?

A. Below the window? I don't know what happened below the window.

Q. No, I mean it was set on a tangent, wasn't it?

A. Starting [303] from the top of the whipstock, your drill pipe in your new hole takes off on an angle. What angle it is I don't know.

Q. Apparently the old drill pipe came unscrewed at a joint some place above the window?

(Testimony of William G. Bradford.)

A. A few feet above the window, yes. We backed it off.

Q. The joint represented the end of one piece of how long pipe?

A. Oh, those were approximately 21 feet.

Q. 21 feet?

A. I am just making a guess. Maybe I am a foot off, a foot and a half, or maybe six inches off.

Q. In other words, you found the drill pipe to consist of lengths of 20 to 21 feet?

A. We make them up in stands. We call those singles. One joint is a single or a length.

Q. What was it here? You took the drill pipe out. What was the stand or length?

A. When they came out there happened to be a break—I was fortunate enough——

Q. Please. The old drill pipe you took out, how long were the stands or lengths of it?

A. Oh, they were approximately 20-foot lengths.

Q. Approximately 20-foot lengths?

A. Lengths, yes, joints, joints of drill pipe.

Q. Joints of drill pipe?

A. Sometimes I would get a whole stand and sometimes I would get one joint, sometimes I would get a double and a triple.

Q. How large would be one stand?

A. It would be four singles.

Q. Four singles? A. That is right. [304]

Q. Is a stand a rigid piece, or not?

A. Well, I don't know what you would call rigid.

(Testimony of William G. Bradford.)

Q. I mean is it pliable?

A. Oh, it can be bent a certain amount because we drill holes and wiggle off probably a thousand or two thousand feet.

Q. Did you expect, when you lowered her, to find the joint of the old drill pipe standing even, uniformly even and vertical in the hole?

A. I didn't expect how I would find it. I went in there with this open pipe to see how I would find it, and I found it standing where I could get over it.

Q. How do you know you got over it?

A. How do I know I got over it? The pipe was collapsed that I ran out in an egg shape, leaving a round circle there where the pipe had been inside of it. It was mashed down against the drill pipe, and I knew I was over it.

Q. In other words, you mashed your pipe down on it?

A. I let my pipe down in this manner here over this stub (indicating), and then it probably went down three or four more feet until I was to where the pinch was. When I got to the pinch, my pipe wouldn't go farther. By giving it weight, shoving it, I mashed it flat, leaving a circle where this pipe had been inside of it.

Q. How did you mash it?

A. By letting the weight of the drill pipe down on it. It was the lower part of the strain.

Q. You found it would go over the old pipe three or four feet before stopping?

A. Yes, sir.

(Testimony of William G. Bradford.)

Q. And further forcing just bashed your pipe?

A. That is right.

Q. That is what I want to bring out. It was your pipe that you say you found was mashed?

A. Yes.

Q. Not the old drill pipe. All right.

A. The old drill pipe in my opinion is not round in that spot.

Q. As a result of which you could say that you lowered over the old drill pipe three or four feet and then, despite heavy [305] pressure on your pipe, you could not get any further?

A. That is right.

Q. The hole was plugged?

A. That is right.

Q. And you surmised or concluded, you might say, that that was because the casing was blocked there?

A. That is correct, caused by the blow-out.

Q. And you further surmised from that that that was collapsed by the blowout?

A. That is right.

Q. Do you distinguished between a section and a window in this operation in whipstocking?

A. Well, I'll tell you. With a lot of our whipstocks we will go right through the pipe with a bit and not cut out a section of pipe at all, but we will call that a window whether it is six inches in diameter or whether it is a whole joint. Everything is a window. You might call it a section or a length. We would mill out a joint.

(Testimony of William G. Bradford.)

Q. In your practice do you distinguish between a section and a window in making a whipstock? Is there any difference in the practice? Do the terms denote the same thing or do they denote something else? A. I didn't get that question.

Q. What is a window——

A. A window——

Q. In a casing, when you make one to set a whipstock.

A. Is by removing a portion of the pipe or all the pipe at a given spot. [306]

Q. It's the same whether you just cut a window in the pipe or whether you cut the whole pipe out? Do you still call it a window?

A. I would still call it a window.

Q. What is a section?

A. If you take out a section it is still a window. It is just along window. That is all—an extra long one.

Q. A section would be taking out a complete section of the casing, wouldn't it?

A. Well, it might be a complete section or it might be a double section or you might——

Q. I mean, all the way around, in complete circumference?

A. All the way around the pipe you can have it. You can have four pieces and say that is a section, or five pieces. It depends on what you take out.

Q. A section in drilling parlance would mean a section?

(Testimony of William G. Bradford.)

A. It could be a 4-foot section or a 5-foot section.

Q. Yes, any length. A. That is right.

Q. Now, you say a window. Does a window mean a window in the sense that we cut a window or hole in the casing, or does it mean anything else?

A. When we make a hole through that pipe or remove part of the pipe, we have made a window.

Q. You have made a window?

A. That is right, or all the pipe.

Q. You mean when you cut a section it is a window?

A. If you take out a joint five feet in length, twenty-five, or two feet long, it is still a window.

Q. You call that a window?

A. I call it a window.

Q. And you make no distinction in making records of it, is that your testimony?

A. That is right.

Q. You found that there was circulation?

A. Sir?

Q. Did you find when you arrived there that they still maintained circulation after the blow-out?

A. Yes, sir, they did.

Q. That would mean—your diagram will help us—that after the blow-out the mud could still be and was passed down the pipe, down the whipstock to the body, out the body and was returning through the whipstock up the outside pipe?

A. It couldn't come through the whipstock. It had to come along by the whipstock. Nothing goes through the whipstock. A whipstock is solid.

(Testimony of William G. Bradford.)

Q. You are speaking of a whipstock as something that the drill pipe sets on?

A. No, nothing sets on the whipstock.

Q. Let us clarify this without getting technical. Circulation after the blow-out meant that after the blow-out the mud was still being pumped down the drill pipe, discharging or coming out the bottom of it and running from the bottom——

A. That is right.

Q. Returning on all sides of the drill pipe to the top of the hole?

A. We don't know if it returned on all sides. It may be channelled.

Q. Let us say it returned.

A. Returned circulation. [308]

Q. That is right? A. That is right.

Q. In other words, mud could do that?

A. Yes, it might.

Q. If mud could do it, would you think that gas could do it? A. Yes.

Q. Did you find any gas blowing from the top of the hole when you arrived there on December 1?

A. I didn't find any gas blowing from the top of the hole, no, sir.

The Court: Would this be a convenient time for you to suspend?

Mr. Bourquin: Yes, your Honor.

The Court: I think perhaps we might take the afternoon adjournment at this time. Ladies and

(Testimony of William G. Bradford.)

gentlemen, we do not ordinarily hold jury trials on Mondays, as some of you may know, although I think Mr. Biney was here in a case in which we used every day, but that was a pretty long case. We usually just have the jury sessions on Tuesday, Wednesday, Thursday and Friday, because the Court tries to get some other cases disposed of on Mondays. Therefore we will take an adjournment in this case until next Tuesday morning at ten o'clock, and I will ask you to return at that time and still keep in your mind your obligation not to converse among yourselves or permit anybody else to talk to you about this case, and likewise you are to refrain from forming or expressing any opinion about the case until it is finally submitted to you. We will adjourn until Monday morning until ten o'clock, but in [309] this case until Tuesday morning at ten o'clock.

(Thèreupon an adjournment was taken until Tuesday morning, January 28, 1947, at 10 o'clock a.m.) [309-a]

Tuesday, January 28, 1947

10:00 o'Clock A.M.

The Clerk: United States of America vs. Certain Land in Contra Costa County.

Mr. Bourquin: Ready, your Honor.

Mr. Scampini: Ready.

WILLIAM G. BRADFORD

recalled on behalf of defendants; previously sworn.

The Clerk: State your name for the record?

A. William G. Bradford.

The Court: This witness was under cross-examination at the last session?

Mr. Scampini: Yes, your Honor.

Cross-Examination

(Resumed)

Q. (By Mr. Bourquin): Mr. Bradford, you said you arrived at the well December 1?

A. I believe that is the day. I am not positive, but I think that was the day.

Q. You stayed about how long there at the well?

A. I stayed there until probably late that night.

Q. I mean, you were there other days later than that?

A. Yes. I stayed there, I would say, ten or twelve days, something like that. I don't know. Maybe fifteen days.

Q. Before you left?

A. That's right.

(Testimony of William G. Bradford.)

Q. That was your first and last connection with the project, [310] was it?

A. Yes; when I left there I left there.

Q. Can you refer me in the log—if I may have that—to the procedure you said you followed when you testified the other day that in an attempt to free that pipe you lightened the mud, but you found that the column began to flow again, so you put it back up to the normal weight?

A. That's right.

Q. Will you refer me to the data on that in the log, please?

A. I did not enter anything myself in this log, and if it is in there, somebody else put it in there. I did not. It may be in there. I will do my best to find it for you.

Q. Well, during the time that you followed that procedure, were the towers, the crews in attendance as they had been? A. Yes.

Q. Was the superintendent, May, there, as he had been? A. That's right.

Q. They had the keeping of the log?

A. They kept the record. The driller is really the man who keeps the record and the superintendent, he comes around, or should come around and look at it every day, or two or three times a day.

Q. Will you look to see if there is any evidence in the log of that particular procedure that you detailed to us, lightening the mud, finding the column then began to flow and increasing it again?

(Testimony of William G. Bradford.)

A. Yes. On the second it says, "Working stuck pipe circulating," and the mud on the second on one shift was 115 pounds, and then increased up to 116 pounds. [311]

Q. To 116 pounds? A. Yes.

Q. That is on the second of December?

A. The twelfth and second.

Q. The twelfth and second?

A. That's right.

Q. Are the two entries on the twelfth and the second in that respect the same? Oh, you mean it is entered 12, 2nd; in other words, December 2?

A. Correct.

Q. Pardon me.

A. Undoubtedly I came in there on the 12th and first.

Q. December 1?

A. Yes, either I was there in the afternoon, or on the morning of the first, if it was the morning of the second, and we increased the mud up to 116 pounds, I notice on the second.

Q. From what? A. From 115 and 116.

Q. What I was referring to was your testimony, I have the transcript here, that you gave Friday when you said:

"I could see they had small circulation, and the mud, I thought, was awful heavy, and by lightening the mud a bit would increase the circulation and might help them to free the pipe and the bit that was stuck.

(Testimony of William G. Bradford.)

“Q. What was the weight of the mud when you first tested it? A. 115 pounds.

“Q. To what weight did you reduce the mud? A. To 100 pounds. [312]

“Q. What happened when you reduced it to 100 pounds?

“A. She increased her flow, and I seen the well was going to start to blow again and I immediately closed the well in and we mixed up heavy mud.”

Have you examined the log for all the days that you were at the well to see if there is any evidence of that procedure that I have just read to you entered on the log?

A. That is there—the only thing on this log, the weight of mud shows the twelfth and second, December 2, on one tower it was 115, and the next up to 116, and the next tower didn't put down the weight of the mud. And the next one didn't put down the weight of the mud either, or the next shift didn't put it down.

Q. There isn't anything on the log there, I take it from what you have said, to show that the mud was ever lightened to 100 during the time that you were at the well?

A. No, I don't see anything, because I didn't keep any record of all this whatsoever; I had no reason to.

Mr. Bourquin: That is all.

The Court: Anything else?

(Testimony of William G. Bradford.)

Mr. Scampini: Yes, your Honor. I did not know counsel was finished. [313]

Redirect Examination

By Mr. Scampini:

Q. Mr. Bradford, on cross-examination last Friday you were asked a question by Government counsel—I have not had occasion yet to read the transcript, so I do not know where it is—but substantially it was to the effect, “Did you notice any gas on top of the well when you first inspected the well?” And your answer was, “No, I noticed no gas.” Will you please state, Mr. Bradford, whether it would be possible to see any gas at the top of the well? Was there any gas in the well?

A. Well, at that time the top of the well was completely shut off by having the Kelley in the hole, the drill pipe in the hole, and your control head, the gas head was coming out the side, where the discharge mud and everything comes out, coming out in the mud trough, the mud ditch, blowing out that way.

Q. You would have to go to the mud ditch end to ascertain whether or not the well was making gas?

A. That is right.

Q. I show you here the exhibit which is in evidence as Defendants' Exhibit No. 15, and I will ask you whether or not that is the mud pit where you would have to go to ascertain whether the well was making gas.

(Testimony of William G. Bradford.)

A. No, sir, you wouldn't have to go to that mud—that is the mud pit, but you wouldn't have to go to that mud pit, because the gas comes from the side of your well into the flow pipe, and down the mud ditch, it goes down the mud ditch, and dumps in the suction pit where the [314] pumps pick it up and return it to the well.

Q. Did you observe any gas coming out of the side? A. I did, plenty of it.

Mr. Scampini: I show you this illustration, Counsel.

Mr. Bourquin: I take it, Mr. Scampini, you want to produce only the illustration? I won't take the time to read the matter on there if you are not offering that.

Mr. Scampini: Just the illustration of a rotary table.

Q. I show you here, Mr. Bradford, what appears to be a picture of a rotary table in the course of drilling a well, and I will ask you to look at it and state whether or not you can state what that picture represents, for the benefit of the jury and the court and us lawyers.

A. Well, I would say that that represents the drill pipe standing in the hole—in the Kelly, rather, showing a pair of tongs on the pipe. It is what I would call a rotary set-up, yes.

Q. That pipe which is sticking in the hole and pointing upward, where did it go?

A. That should be the Kelly there. My eyes are not good enough to see if it is the Kelly, or not—

(Testimony of William G. Bradford.)

I'll say that—but that should be the Kelly. That goes up to what we call the swivel, which hangs up here, that your blocks come down and tie onto, and your swivel never rotates, but allows your Kelly to turn around in the swivel, and then from there goes your mud hose down to your pumps.

Q. I will now show you Defendants' Exhibit No. 14, and I will [315] ask you to state where on that exhibit would appear to be the Kelly and the hose that goes to the mud pit.

A. From what I can see here I would say either in the hole, either drilling or circulating. The pipe that you see standing in the dirt happens to be some tubing which they probably used in making a test before.

Q. Where would you see the gas coming out of the well from the point of view of the perspective of the picture now in your hand?

A. If your pipe were out of the hole, or if your Kelly was set off and your pipe was opened, you could stand down here anywhere and see it. Otherwise, you would have to walk up this hill to the mud ditch and set where she is flowing out.

Q. Is that what you had to do when you appeared at the scene of the well?

A. Yes, I came in on the dirt floor and looked out on the ditch the first thing.

The Court: This document you are passing to the jury has not been marked in any way.

Mr. Scampini: Pardon me. May I offer this as our exhibit next in order?

(Testimony of William G. Bradford.)

The Court: That is for illustration.

Mr. Scampini: For illustration purposes only.

(The photograph in question was thereupon marked Defendants' Exhibit 21 for Identification.)

Q. (By Mr. Scampini): When you lost circulation, which I understand your testimony to be was when you made a turn of the pipe, [316] would gas thereafter be noticeable coming from the well?

A. No, you see once you kill that circulation that I did have by moving that pipe that closes off everything down below where your gas would be coming from, but couldn't get by that check. Otherwise, if it could get by I could circulate.

Q. The only way in which gas could ever come out of that well again would be by regaining circulation?

A. That is right, because inside our drill pipe we had a check valve, which was to keep the well from blowing back through your drill pipe, and even your drill pipe couldn't have been plugged, only this check valve. It couldn't be blown through your drill pipe.

Q. Did you try to regain circulation?

A. I did.

Q. Were you able to regain circulation?

A. I did not. I called in the Haliburton man. They have high pressure pumps for that purpose. And I put approximately 3500 to 4000 pounds of

(Testimony of William G. Bradford.)

high pressure on the well, and I didn't get any circulation whatsoever.

Mr. Bourquin: I think this was covered the other day in direct examination, your Honor.

Mr. Scampini: Yes, your Honor. I am coming to another point now.

Q. If circulation is not possible, Mr. Bradford, could any tests such as the Schlumberger or the Johnson formation test be made?

A. No, absolutely not. [317]

Q. What would have to be done in the instant case in order to have been able to make a test of the formation from which this gas is coming by means of a Johnson formation test?

A. It would have to set a whipstock, cut a new window, drill down to this sand seven or eight hundred feet, then make your test.

Q. What would have to be done in order to make a Schlumberger test of the formation?

A. The same thing.

Q. Could any test have been made of the formation found at the 4975-foot level, with the condition of the hole as you found it?

A. Absolutely not. You couldn't get down.

Q. What did you recommend be done for the purpose of making a test of that formation, Mr. Bradford?

A. Set another whipstock on top of where this well was pinched off and closed off, build another

(Testimony of William G. Bradford.)

whipstock, cut a window or cut out a small section or a window, and drill down to the zone and properly bring in a gas well.

Q. Were any preparations made for the setting of that whipstock?

A. Well, I had made some arrangements with the people down near Los Angeles that build those whipstocks. They built quite a few for me. I called them up and they said due to the shortage of steel it may take several days to get it up here. It is hard to get the type of steel we want.

Q. Did you have any conversation with representatives of the Navy looking towards obtaining an opportunity to test that [318] formation?

Mr. Bourquin: I object to that as calling for hearsay, irrelevant, and immaterial.

Mr. Scampini: If your Honor please, is it hearsay if it is a representative of the Navy?

The Court: I do not see how the conversation is material. The evidence shows already, does it not, that the Navy gave 30 days notice?

Q. (By Mr. Scampini): Between the date when you made your recommendation for the setting of the whipstock and re-drilling the well and the date when you were first served with notice, on December 15th, to vacate the premises, did you have any opportunity to wet that whipstock and re-drill that well or make any test?

A. No. I wouldn't have had a show, I wouldn't have had a chance. There wasn't enough time. It takes time to do that.

(Testimony of William G. Bradford.)

Q. When you were served with a notice to vacate the premises did you do anything relative to abandoning the well?

Mr. Bourquin: We object to this, your Honor, as irrelevant and immaterial. It has no bearing that I can see on the question of the market value here. Notice is conceded, admitted. It is in evidence.

The Court: There is no dispute about the fact that after you received the notice you abandoned the well.

Mr. Scampini: I have just one more question.

Q. I show you here a photograph, Mr. Bradford. I will ask you to look at it and state whether or not you can identify that photograph (handing a photograph to the witness).

A. Yes, that looks like——

Q. What is that photograph?

A. Well, that is the place where the oil dirt or gas dirt or drilling well material had been set. It looks to me like it may have been Faria No. 1.

Q. After what incident?

A. After the well had been cleaned off, the dirt torn down and the machinery removed.

Mr. Scampini: I offer this as our exhibit next in order.

(The photograph was thereupon received in evidence and marked Defendants' Exhibit 22.)

[Defendants' Exhibit No. 22 appears on page 1250.]

(Testimony of William G. Bradford.)

Mr. Scampini: Associate counsel reminds me that Exhibit 21 is only in for the purpose of identification.

The Court: No, for illustration.

Mr. Scampini: For illustration.

The Court: That is what you said.

Mr. Scampini: Yes.

The Clerk: Do you wish it marked in evidence for the purpose of illustration?

The Court: It is an exhibit. Counsel offered it for the purpose of illustration.

Mr. Scampini: Yes, but it is an exhibit in evidence, not for identification.

The Court: Yes. [320]

(Defendants' Exhibit No. 21 for Identification was thereupon received in evidence.)

[Defendants' Exhibit No. 21 appears on pages 1248 and 1249.]

Mr. Scampini: That is all. You may take the witness.

Recross-Examination

Q. (By Mr. Bourquin): Mr. Bradford, you said you observed gas at the flow pipe.

A. That is right.

Q. Would that be the pipe that would flow the mud out into the ditch? A. That is right.

Q. In other words, the column of mud around the drill pipe would outlet into the ditch?

A. That is right, it comes out under the dirt.

(Testimony of William G. Bradford.)

Q. What was the shape or the form of the gas that you observed there? In what state was it that you saw?

A. Well, it was blowing out across. Instead of stopping in the ditches, it was flowing right over the ditch.

Q. Was it gaseous, bubbling, or what?

A. It was gas.

Q. Describe it to us.

A. You saw a blue-looking haze coming out, a puff of mud, puff of gas; you could smell it, and I have been looking at it for 34 years now.

Q. That is the way you saw it?

A. That is right.

Q. As you looked at the mud arising in that hole around the drill pipe you would see a puff of mud and then a puff of gas, and then a puff of mud and then a puff of gas?

A. No, I didn't look around the drill pipe and nobody else can. It was out the side of the dirt where she's coming out. [321]

Q. So there will be no mistake, we are talking about where the mud comes out of the hole into the ditch.

A. That is right.

Q. At that place you observed a puff of gas, a puff of mud and a puff of gas?

A. That is right, and they were quite long puffs.

Q. In other words, the gas was still coming up in the mud, was it?

(Testimony of William G. Bradford.)

A. It was coming up in the mud. It came up in slugs by itself. That is, we call it slugs, or heads of gas.

Q. That mud was pretty gas-cut in that state, wasn't it?

A. Well, sir, that mud would get gas-cut mighty quick with the kind of gas we had on the well.

Mr. Bourquin: That is all.

W. H. McBRIDE

called as a witness on behalf of the defendants; sworn.

The Clerk: Q. State your name to the court and jury.

A. W. H. McBride.

Direct Examination

Q. (By Mr. Scampini): Mr. McBride, what is your usual business or occupation?

A. Well, at the present time I am working on a ranch.

Q. What were you doing on or about November of 1944? A. Working on an oil well.

Q. Had you been working on oil wells before?

A. Yes, sir.

Q. How long had you been working on oil wells?

A. Two different [322] occasions, seven or eight years.

(Testimony of W. H. McBride.)

Q. What were the usual duties that you performed on oil wells? What had you done?

A. I was a roughneck.

Q. What were you on or about November, 1944?

A. Roughneck.

Q. And for whom were you working?

A. Cal Bay Corporation.

Q. Were you working on the drilling of the Faria well at that time? A. Yes, sir.

Q. What is a roughneck in the business?

A. Well, you work on top of a rotary table, going in and out of the hole. You are spinning the pipe or unspinning it and coming out.

Q. Referring you to the exhibit which is in here for the purpose of illustration, Defendants' Exhibit 21, will you please state whether or not the roughneck generally handles the tongs which are attached to the drill pipe there? A. Yes, sir.

Q. Is that what you were doing on or about November 27, 1947? A. Yes, sir.

Q. Were you working on the well on the morning of November 29, 1944? A. Yes, sir.

Q. Who was your head driller on that shift?

A. Mr. May.

Q. Who else was working with you on that shift?

A. I don't recall all the fellows working there other than nicknames. A few of them I didn't know their last name at all.

Q. On or about November 27, 1944, did you notice anything unusual or different from that which has occurred previously in connection with the drilling of the well? A. Yes, sir. [323]

(Testimony of W. H. McBride.)

Q. What did you notice?

A. Well, the well blew in.

Q. Was that on November 27th?

A. No, sir, that was on November 29th.

Q. Referring you back to November 27th, what, if anything, happened?

A. I don't quite recall on the 27th. I think we was either stuck in the hole or circulating. I don't remember exactly.

Q. Do you recall when the pipe was stuck coming out of the hole? A. Pardon?

Q. Do you recall the pipe getting stuck while coming out of the hole? A. Yes, sir.

Q. Do you recall what you were doing when the pipe was being taken out of the hole?

A. Well, we were circulating, trying to get out of the hole.

Q. Had you been on that shift?

A. I was on the day shift.

Q. Do you recall the drilling of the well at that time?

A. I don't quite understand you.

Q. Do you recall what nature of formation you had been drilling through just about that time?

A. Well, we had hit oil sand.

Q. When did you hit the sand?

A. I don't recall the date on it. I don't exactly remember.

Q. Was it at or about the time when the pipe got stuck?

A. Yes, sir, I believe it was.

(Testimony of W. H. McBride.)

Q. What were you coming out of the hole for, if you know?

A. Well, I don't remember that. [324]

Q. After the pipe got stuck do you recall whether or not the well was circulating?

A. Yes, sir, we were.

Q. Do you recall the spotting of any oil in the well? A. Yes, sir.

Q. How many barrels of oil were spotted in the well?

A. I believe it was somewhere in the neighborhood of 8 barrels, I believe.

Q. What did you do after spotting the eight barrels of oil into the well?

A. We circulated it, pumped it out.

Q. How long did you circulate?

A. I believe it was probably a day and a half, two days.

Q. Coming down now to the morning of November 29th, what happened on that occasion?

A. The 29th is the day the well blew in.

Q. That is right. What did you see?

A. Well, I first heard the well bubbling and gushing like, and all of a sudden she just started coming out, blew right out around the drill pipe, blew, I would say, somewhere in the neighborhood of 85 or 90 feet in the air.

Q. What did you see being blown up into the air? A. It was oil, gas and sand.

(Testimony of W. H. McBride.)

Q. What kind of noise did it make?

A. Well, it makes a kind of a hissing sound.

Q. Did you observe the color of the material coming out of the well and being blown up into the air?

A. Well, if you [325] have ever been around a well when it blew in you would know it was gas.

Q. What was done after the well began to blow?

A. Well, we started shutting it down, trying to get it under control.

Q. What did you do for that purpose?

A. Put the blow-out head on it and then put the pressure pump on it.

Q. Do you try to use the gas preventor, the blow-out preventor? A. Yes.

Mr. Bourquin: This is leading, your Honor. The witness just testified he put the blow-out head on. He can be asked what he did rather than this form of question. We object to it.

Q. (By Mr. Scampini): Please describe exactly what you did to bring the well under control.

A. Well, the blow-out collar that goes around your drill pipe, fits down around your drill pipe next to your casing, we put that on and then put the pressure pump on.

Q. How much pressure did you put on, if you know?

A. I believe it was fifteen or sixteen hundred pounds pressure, I believe. I am not sure.

Q. After the application of the pressure had the blow-out preventor completely shut in the well?

A. Pardon?

(Testimony of W. H. McBride.)

Q. Was the well completely shut in after applying that pressure?

A. I believe it was, yes, sir.

Q. To what weight was the mud built up?

A. Well, it had dropped—that is how it came to blow in. I don't recall [326] what the weight was then, but I think we built it up to around 115 or 116.

Q. How long did it take you to bring the well under control?

A. I think it blew in around eleven, and I think it must have been around two or two-thirty, maybe three o'clock; probably two hours and a half.

Q. Did you make any examination of the sand that came out of the hole during the blow-out?

A. Well, yes, sir, I went out to the end of the mud trough where the mud comes out, circulates and goes back into the mud pit, and I think I got a coffee jar full of this oil sand and gave it to Mr. Faria.

Q. What did it look like to you or how did it feel?

A. Well, naturally it would be greasy, kind of rainbow-like colors.

Q. What color?

A. Kind of bluish. You can see it in the sand. You can tell.

Mr. Scampini: You may take the witness.

Cross-Examination

Q. (By Mr. Bourquin): What is your name?

A. W. H. McBride.

(Testimony of W. H. McBride.)

Q. How long had you been working on the well at the time of this blow-out?

A. I was only there around—it was either—a little over two months, I think it was.

Q. Had you been working on that well for two months before the blow-out?

A. Somewhere in that neighborhood, yes, sir.

Q. Had you had earlier experience working in oil or gas exploration? [327]

A. Not in California, no, sir.

Q. Had you had it elsewhere?

A. Yes, sir.

Q. How much, and where?

A. Well, I was born and raised in Texas right in the oil fields, and I have worked around seven or eight years off and on. I didn't work steady all the time.

Q. What years did you work in oil and gas exploration fields in Texas?

A. Well, I don't exactly recall the years—'28 and '29, and then later on it was '32, '33, '34, somewhere along there.

Q. '32?

A. '32 or '33. I don't exactly recall the dates, the year.

Q. Did you work around oil and gas gangs at that time?

A. Well, off and on. I didn't work steady.

Q. Did you work around them after that and before you went over here to this wildcat?

(Testimony of W. H. McBride.)

A. Well, I was born and raised in the fields. I started driving a team in the oil fields when I was a kid 14 or 15 years old.

Mr. Scampini: If the Court please, I desire to take exception to counsel's continued reference to this well as a wildcat. We contend it was a commercial discovery and not a wildcat.

Mr. Bourquin: I am not trying to decide the case by calling the exploration names. I am only using the name that I found on the reports furnished me the other day by Mr. Scampini, himself; the Baroid reports describe it. As I say, I do not want to give [328] any offense. Let the facts speak for themselves. I think the jury understands that. Shall I proceed, your Honor?

The Court: Yes.

Q. (By Mr. Bourquin): Mr. McBride you were at the well the days before this blow-out, were you not?

A. Yes, sir.

Q. Some days a few days before the blow-out, the pipe had stuck, is that correct?

A. Yes, sir.

Q. There had been an attempt to withdraw the pipe and then it stuck again a certain distance off the bottom, is that correct?

A. I think so, yes.

Q. Following that there were efforts made by the crews there to try to free that pipe?

A. Yes, sir.

Q. Spent two or three days there, is that correct?

A. I don't recall how many days they spent at it, trying to free it.

(Testimony of W. H. McBride.)

Q. On the morning of November 29th you were at the well, were you? A. Yes, sir.

Q. The crew then became aware of a disturbance in the well, didn't they? A. Yes, sir.

Q. They went down and put on a blow-out preventor? A. Yes, sir.

Q. And then they got it on, the mud blew out, is that correct?

A. Well, mud was blowing out when we went down and put it on.

Q. Mud was blowing out when you went down and put it on? A. Yes, sir.

Q. And the mud continued to bust out of that well for some [329] period of time, did it?

A. Yes, sir.

Q. Kicked out of the well up in the air?

A. Yes, sir.

Q. Kicked up about 20 feet above the blocks, did it?

A. I would say somewhere in the neighborhood of twenty or twenty five feet. The blocks, I think, were about half way up, somewhere around 60 or 70 feet.

Q. It took some hour or two for them to control the mud and stop the blow-out, did it?

A. Yes, sir.

Q. Have you ever been around wells before where they blew out? A. Yes, sir.

Q. What did you do with this sand that you said you took?

(Testimony of W. H. McBride.)

A. I took a coffee jar full of it and gave it to Mr. Faria.

Q. What color was it?

A. Kind of a rainbow-like color, green bluish.

Q. You gave it to Mr. Faria? A. Yes, sir.

Q. Have you any feeling or prejudice against the Government, Mr. McBride? A. Not a bit.

Q. Have you ever had any trouble with the Government?

A. Oh, no serious trouble, no, sir.

Q. Well, in 1937 were you convicted of post office robbery and served a year in Leavenworth?

A. No, sir.

Q. No? A. No, sir.

Q. Is your name Wayne Howell McBride?

A. Wayne H. McBride.

Q. Have you ever been in Leavenworth?

A. Yes, sir.

Q. How many times? A. One time. [330]

Q. Were you convicted of Post Office robbery in 1937?

A. I don't think it was in 1937.

Q. When was it?

A. I don't recall the date.

Q. Did you go to Leavenworth for that?

A. Yes, sir.

Q. How long did you serve?

A. Eight or nine months.

Q. Did you go to Leavenworth again after that on a Federal conviction? A. No, sir.

(Testimony of W. H. McBride.)

Q. Were you tried for desertion from the Army in 1931? A. It wasn't desertion, no, sir.

Q. Were you tried for a violation of the articles of war while in the Army? A. Yes, sir.

Q. Were you dishonorably discharged?

A. Yes, sir.

Q. Did you go to Leavenworth?

A. I didn't go to Leavenworth, no, sir.

Q. Didn't you go to Leavenworth for desertion in March, on March 26, 1931?

A. I went to Ft. Leavenworth.

Q. Ft. Leavenworth?

A. Yes, sir, the disciplinary barracks.

Q. The disciplinary barracks?

A. Yes, sir.

Q. How long did you serve?

A. Oh, I don't recall, a year and something.

Q. Were you convicted of burglary in Brown County, Texas, in 1934? A. No, sir.

Q. Did you serve any time in the Texas State Penitentiary commencing in 1934?

A. Yes, sir.

Q. Did you ever serve any time in the Texas State Penitentiary? [331]

A. No, sir, I did not.

Q. You did not? A. No.

Q. Did you ever serve any time in the Washington State Penitentiary? A. I did, yes, sir.

Q. When? A. 1939.

Q. What charge? A. Grand larceny.

(Testimony of W. H. McBride.)

Q. How long did you serve?

A. Four years.

Q. Have you gone under other names besides McBride?

A. On one occasion, I think.

Q. What other names?

A. I don't recall what the names were.

Q. Did you go under the name of Roy Lester Burton, in Texas, in 1930?

A. No, sir.

Q. Did you ever go under that name?

A. Not that I recall, no, sir.

Q. Did you ever go under the name of Jack Wilson in Texas?

A. No, sir.

Q. Did you ever go under the name of Cecil Parker?

A. I think that is the one where I was picked up in Omaha riding a train going through the wheat harvest.

Q. Were you picked up in Idaho in 1936 and gave the name of Cecil Parker at Naples, Idaho?

A. No, sir.

Q. You have been in Idaho?

A. Yes, sir.

Q. Were you picked up in Idaho in May, 1937 in Canyon County, on a larceny charge, and gave the name of C. Parker?

A. No, sir.

Q. No? When did you first go to work in any of the oil [332] fields?

A. When did I first go to work in any oil field? I was born and raised in the oil fields.

Q. Have you ever worked as other than a rough-neck?

(Testimony of W. H. McBride.)

A. I started out skinning a team, driving a team.

Q. Driving a team? A. Yes, sir.

Q. Did you ever work in the scientific end of the industry? A. No, sir.

Q. Never had any scientific training in it?

A. No, sir, other than just roughnecking.

Mr. Bourquin: That is all.

Mr. Scampini: That is all, Mr. McBride. Thank you. [332-a]

Mr. Scampini: At this time, if it please the Court, before calling my next witness, Mr. Faria has asked me to respectfully request the Court for permission to correct an answer which he gave to one of Mr. Bourquin's questions. Mr. Faria, please. Mr. Faria wishes to correct an answer he gave to one of Mr. Bourquin's questions. The question you asked Mr. Faria was with reference to whether or not he had ever taken delivery of the casing and Mr. Faria answered, "No". He desires to change his answer. Shall I call him?

JOSEPH FARIA, JR.

recalled as a witness on behalf of defendant;

Direct Examination

By Mr. Scampini:

Q. Mr. Faria, in answer to Mr. Borquin's question at the conclusion of your examination, the question being: "Did you ever take delivery of the

(Testimony of Joseph Faria, Jr.)

casing that you purchased for the purpose of completing this well?", and your answer, "No". Do you wish to change your answer? A. Yes.

Q. What is your answer?

A. Well, the answer is that I did take delivery, but I did not understand when I thought he meant that I took delivery of the casing to the property where we was drilling the well, but I had bought this casing and paid for it, and we were waiting, making preparations to go down with the whipstock and we had notice that we had to abandon [333] the well from the Government, so I just left the casing there at Rio Vista, but it was all paid for. It was left there about several months.

Q. I now show you here a bill of sale from the Standard Oil Company. I will ask you to look at it and state whether or not that is the bill of sale on that casing? A. Yes, that's right.

Mr. Scampini: I offer as our exhibit next in order the statement identified by the witness.

That is all.

(The bill of sale was thereupon received in question and marked Defendants' Exhibit 23.)

[Defendants' Exhibit No. 23 appears on page 1251.]

Cross-Examination

By Mr. Bourquin:

Q. What did you do with the casing?

(Testimony of Joseph Faria, Jr.)

A. The casing, the National Supply people in Bakersfield took it over.

Q. What did they do with it upon buying it?

A. They bought it.

Q. What did you pay for it?

A. I don't know, but the receipt here shows around thirty-six or thirty-seven hundred dollars.

Q. Did you buy it all from Standard?

A. I bought some from Standard and some from Peter Cook.

Q. Did they deliver it to Peter Cook?

A. Yes.

Q. Was it new or used casing?

A. The Peter Cook casing [334] was used casing. The Standard Oil had been used a little, very little.

Q. You paid about thirty-six hundred dollars for the Cook and Standard casing?

A. I think so. I can't say sure, but I could get those figures off my books.

Q. You think that that is about right?

A. Well, I would say, I am not so sure, but I could get it for you.

Mr. Scampini: Counsel has the figures in the audit I gave him yesterday.

Mr. Bourquin: I ran over them, there were some figures that I wanted to call attention to, but they have not been prepared where they could be readily usable.

Q. Was it usable casing? A. Yes.

Q. Did you have any trouble getting rid of it?

A. No.

(Testimony of Joseph Faria, Jr.)

Q. What did you get for it?

A. It was a little less money than what we paid for it.

Q. How much less?

A. I don't know. You have to get that from the bookkeeper.

Q. What is your recollection?

A. I don't just exactly know how much less, but it was less, but I don't know how much.

Q. Fifty dollars less?

A. I imagine all of that and maybe more.

Q. Maybe something more than fifty? Was it something less——

A. It might have been. [335]

Q. Have you no idea how much less it was?

A. You would have to get it from the bookkeeper. I don't remember exactly.

Q. Is that the same casing as the other day you were referring to as being available and on hand, and you took a loss in buying it because you understood the Navy was going to let you go ahead?

A. That was the casing.

Q. The same casing?

A. Yes, 5,000 feet.

Q. You spent thirty-six hundred dollars for it?

A. Yes.

Q. And you sold it? A. Yes.

Q. You don't know how much less you sold it for?

A. Not exactly, no.

Mr. Bourquin: That is all, your Honor.

(Testimony of Joseph Faria, Jr.)

Redirect Examination

By Mr. Scampini:

Q: Can you approximate what the loss was?
Counsel does not want to get the exact figure.

A. I would say, over five hundred dollars.

Mr. Scampini: That is all.

The Court: We will take the morning recess at this time. Ladies and gentlemen, please bear in mind the admonition I have given you.

(Recess.)

Mr. Scampini: I will call Mr. Johnston. [336]

T. M. JOHNSTON

called as a witness on behalf of defendants; and having been first duly sworn, testified as follows:

The Clerk: Will you state your name to the Court and jury? A. T. M. Johnston.

Direct Examination

By Mr. Scampini:

Q. Mr. Johnston, what is your usual business or occupation?

A. We test oil and gas wells for productivity.

Q. What is the name of the concern with which you are associated?

A. The M. O. Johnston Oil Field Service Corporation.

Q. What position do you hold in that concern?

A. General Manager.

(Testimony of T. M. Johnston.)

Q. What is the usual activity of the M. O. Johnston Oil Field Service Corporation?

A. Well, we test wells that are exploring for oil or gas before and after casing has been set to determine producing possibilities of a given well or zone.

Q. What do you call the test that your concern makes of these formations?

A. Well, before a string of casing is set in a well we call them formation tests. We test, actually test any given formation and extract from that formation any fluid or gas that the formation is capable of producing and after pipe is set there are two types of tests; one test, they test to prove to the State of California and themselves that they have the water shut off from the producing zone. Usually after that test is made they will further test it for the producing possibilities.

Q. Now, taking up the test which you ordinarily make before setting casing, will you please describe what you mean by setting casing?

The Court: Counsel, hasn't that——

Mr. Scampini: Been gone into?

The Court (continuing): ——been gone into?

Mr. Scampini: All right.

The Court: Why don't you go just right to the particular point?

Q. (By Mr. Scampini): Did you in connection with the operation of Faria Well No. 1 make any test of the formations of the well?

A. Yes, we did.

(Testimony of T. M. Johnston.)

Q. Do you recall when those tests were made?

A. No, I don't.

Q. Have you got notes with you that show you?

A. No, I haven't.

Q. Well, I will show you here some notes and I will ask you to look at them and state whether or not you recognize them? A. Yes, sir.

Q. What are those documents?

A. They are copies of our actual test tickets that were made on the job and also copies of your pressure recorder readings that are read in conjunction with the tester.

Q. When you say "copy," do you mean photostatic copy? A. Yes.

Q. I now show you a photostatic copy of a ticket No. 6015. I have already shown them to counsel. Is that right, Mr. Bourquin?

Mr. Bourquin: Is that an exhibit? That is not marked as yet?

Mr. Scampini: It is the one of 6015, that is the one of 10/27 and 10/20.

(Conference between counsel.)

I show you Ticket No. 6015, to which there is attached a pressure chart dated October 5, 1943. Will you please state what were the results of that test made on that day?

A. Well, according to the test taken here they left the packer and the tools remain open for 18 minutes and had a light steady blow for the duration of the test, but there is no—they didn't put on

(Testimony of T. M. Johnston.)

the ticket what, if any, fluid was taken into the drill pipe during the test. I assume that probably there was not any fluid taken in and it was strictly a gas blow.

Q. What do the words "light, steady blow," indicate to you?

A. Well, if you have a light, steady blow on a test and that blow is caused by an entry of fluid from any given formation, you should contain some of that fluid in the drill pipe when [339] it is pulled from the hole, but when you have a blow and don't have any fluid, that is caused from a gas, a dry gas that does not produce any fluid.

Q. At what depth was that test on October 5 made?

A. The bottom of the hole at that time was 4,318 feet, and the formation shoulder was 4,287, that was 31-foot interval that was tested, the interval between 4,318 and 4,287.

Mr. Scampini: I now offer in evidence as our exhibit next in order the ticket No. 6015, being the test of October 5, 1943.

The Clerk: September or October, Counsel?

Mr. Scampini: October.

The Clerk: This is marked ninth

Mr. Scampini: I will have to correct that.

Q. Mr. Johnston, will you please state whether or not the date on that ticket of 9/5 when you compare it to the pressure chart is the correct date, or whether an error was made in writing down the date of the month, the number of the month, rather?

(Testimony of T. M. Johnston.)

Mr. Bourquin: Can you correct that from the depth; is it off the depth?

Mr. Scampini: I have all these tickets beginning September 30, clear down, so it must have been October 5. The first test was made on September 30.

Mr. Bourquin: If you find it is off on the depth, we will [340] agree he may correct it.

Mr. Scampini: Well, the log will indicate it.

The Court: You think that should be October instead of September?

Mr. Scampini: Yes; I know it is, your Honor, because the log will so indicate.

The Witness: Well, the ticket on our test, it was made on the ninth month and the fifth day. These photostatic copies are made up in our shop and they are turned over to a man who has hundreds of these tickets to photostat, but he probably made a mistake on the ticket.

The Court: Let it be marked.

(The ticket in question was thereupon received in evidence and marked Defendants' Exhibit 24.)

[Defendants' Exhibit 24 appears on pages 1252 and 1253.]

Q. (By Mr. Bourquin): Will you take a look at the pressure chart attached to the ticket and state what that pressure chart means to you?

Mr. Bourquin: Is this the same ticket?

Mr. Scampini: Yes.

(Testimony of T. M. Johnston.)

The Witness: Well, actually, you can't tell a whole lot about the pressure recorder, because something went wrong in the mechanics of the clock that propels the instrument and about all that you can tell about it at all is just the weight of the hydrostatic column of fluid in the hole. That really does not mean anything. [341]

Mr. Scampini: I offer in evidence as our exhibit next in order and as part of the last exhibit, I think we can probably attach it——

The Court: Put it all together.

(The pressure chart in question was thereupon received in evidence as part of Defendants' Exhibit 24.)

Mr. Scampini: I also offer in evidence, although the whole book is in evidence, the log page under date of October 5, 1943, which reads under the phrase of "Remarks":

"Ran Johnston test in hole."

The Court: It may be admitted.

(The page of the log book dated October 5, 1943, was thereupon received in evidence and marked Defendants' Exhibit 25.)

Mr. Scampini: I now show you here a ticket No. 6757, which has already been admitted in evidence as Plaintiff's Exhibit No. T, and also Ticket 6758, which is a continuation of the 6757, and I will ask you to look at it and state what that is and what it means?

(Testimony of T. M. Johnston.)

A. Well, it merely means that on the tenth month and twentieth day these people perforated the casing at 4,251 feet, and after it was perforated, called upon us to run our test above those holes and test for water shut-off, and we did run the test and it blew for two minutes pretty good and then for one minute a little blow and then no blow at all. We left the tester set one hour, [342] which is required by the State, and when we pulled the tester out of the hole they had 42 feet of gassy drilling fluid and no water was present. So I imagine that the State of California gave you a satisfactory water shut-off and then you could go ahead, and the next day you shot some additional holes at 4,240 and we ran the same kind of test on that well. On our test after shooting the additional holes it says here that it flowed.

Mr. Bourquin: Flowed?

Mr. Scampini: What do the words "It flowed" indicate to you?

A. Well, the thing came in, came out.

Q. Speaking of a water shut-off, isn't it customary and usual to encounter water sands in the course of drilling wells? A. Yes.

Q. The water sand are shut off?

A. Yes, by means of casing and cementing over them.

Q. In order to ascertain whether the water sand has been effectively shut off, we usually make the test that you have described and which was made on the 20th day of October in this case?

A. Yes. [343]

(Testimony of T. M. Johnston.)

Q. On the 21st then you made the test to ascertain whether or not the formation was productive of gas in this case?

A. That is what the ticket indicates, yes.

Q. I show you here the pressure charts for October 20th and October 21st and ask you to look at them and state what they reflect.

A. Well, on October 20th the pressure chart is a perfect indication of an absolutely dry test, in other words, the holes were shot into the formation. The cement had made a perfect bond between the casing and the side walls of the hole, and there was no water entry, and so therefore you have no pressure. If you have an entry of water into the drill pipe it will measure the weight of the fluid on the chart. Here the fluid is absolutely zero.

Q. Looking at the one of October 21st, what does that reflect?

A. We set the packer on that date after additional holes were shot at 4240 feet. We left it set $3\frac{1}{4}$ hours, and it flowed for one hour. We had a flow pressure of between five and seven hundred pounds—that is, with everything open—and then they closed the well in and let the pressure build up below the packer. After the space between the packer and the bottom of the hole filled the tools were opened. It was subjected to atmospheric pressure, and then as your fluid entered the hole, entered the drill pipe through the holes that were shot in the casing, this pressure chart indicates a pressure up to 1100 pounds when it was closed in.

(Testimony of T. M. Johnston.)

Now, how many holes were shot I don't know. It just says, "Shot at 4200 feet." [344]

Q. Do the tickets or the pressure chart indicate any gas coming from the formation?

A. Well, yes.

Q. What does it indicate in that respect?

A. Let me see the ticket, will you please? Well, it does say here, "Flow test," on the ticket. Ordinarily in all cases, if there is any fluid, water, oil or mud, within the drill pipe when it is taken from the hole, they will note it on the ticket. So I assume that this pressure was caused by just a gas blow with no fluid present.

Mr. Scampini: I offer in evidence as our exhibit next in order tickets Nos. 6757 and 6758, bearing the dates of October 20, 1943, and October 21, 1943, with the accompanying pressure charts of the Johnson formation test, and ask that they be marked as one exhibit.

Mr. Bourquin: Aren't those the same as the exhibits earlier introduced in evidence?

The Court: The charts for October 20th and 21st are Plaintiff's R, S and T. I do not know whether they are the same or not.

Mr. Scampini: The last two, the one of October 20th and October 27th, are the same.

Mr. Bourquin: Which are you offering now?

Mr. Scampini: The last one is the one of October 20th and 21st. This is the one of October 27th. The first one was October 5th. [345]

(Testimony of T. M. Johnston.)

Mr. Bourquin: May I see it? What is the one you offered?

Mr. Scampini: Government's Exhibit T.

The Clerk: You have some of my exhibits, Mr. Scampini.

Mr. Scampini: Yes.

The Clerk: I can't find them for Mr. Bourquin.

Mr. Scampini: This last one I offered is a Government exhibit.

The Clerk: You are re-offering then this Government exhibit?

The Court: You are getting confused offering the same exhibit, aren't you?

Mr. Scampini: I see they are already in evidence on the Government's side. The one of October 5th is the only one that had not yet been offered.

The Court: I have a record that it was Government's Exhibit R.

Mr. Scampini: Government's Exhibit R is the one of October 27th, your Honor. I have it in my hand.

The Court: That is Government's Exhibit N, isn't it? You offered some charts, Mr. Bourquin.

Mr. Bourquin: Yes, your Honor.

The Court: After you offered the Johnson test tickets. There were charts of the Johnson test. They were offered as Plaintiff's Exhibits R, S, and T, and I marked them at the time as being of the dates October 5th, 20th and 21st. [346] If you are offering the same exhibits it is going to be confusing.

(Testimony of T. M. Johnston.)

The Clerk: May I say this, your Honor? Exhibit R is identical to half of Exhibit 24. He offered two parts. Exhibit R is identical with half of it.

Mr. Scampini: Mr. Bourquin, for the purpose of clearing up the record, the chart of October 27th, which is already in evidence as Plaintiff's Exhibit R, consists of two portions, and you had only received from me one portion. I will now show you the second portion, which I just ran into myself, because the test was continued on October 28th.

Q. I will now show you Plaintiff's Exhibit R, which appears to be a test made by the Johnson Oil Field Service Corporation, under date of October 27th and 28th, being tickets numbers 6201 and 6202.

I will now ask that these tickets be marked as part of Plaintiff's Exhibit R, your Honor, because they are attached to the pressure chart.

The Court: I do not know. There is another exhibit that is Plaintiff's Exhibit N, which is the test. I am familiar with these matters. Where is that exhibit? The tickets are separate, or the charts were separate from the report of the test, itself. Mr. Bourquin offered the Johnson test of October 27th and it was marked Exhibit N. That was the report of the test. [347]

Mr. Scampini: According to my indications on the back here, it is Exhibit R.

The Clerk: Mr. Scampini is now offering Plaintiff's Exhibit Q and asking that it be marked as part of that.

(Testimony of T. M. Johnston.)

The Court: They are already in evidence, Mr. Scampini. You had better get that straightened out at recess time. You have taken part of the plaintiff's exhibits and are asking that they be offered in evidence as defendants' exhibits, and that may be confusing.

Mr. Scampini: It so happens that the plaintiff just subpoenaed and asked that I produce the records. I delivered them to him and he offered them.

Q. I ask you to look at tickets 6201 and 6202 and state what they are, and what they reflect, and what they represent.

A. 6201 is a ticket indicating that our equipment was run and the packer set at 4240 feet to test an interval that had been perforated between 4280 and 4290, an interval of ten feet to be tested.

Q. (By the Court): What is the date of that?

A. 10/27/43.

Q. October 27th?

A. Yes. The blow—a good blow throughout the test, and gas was to the surface in seven minutes. That means after we ran the equipment in the hole and set the packer, the inside of that drill pipe was at atmospheric pressure, and we set the packer, and then by a patented means we open the tool and that exposes that area below the packer to [348] atmospheric pressure, and the gas that came into the casing below the packer through the interval that was perforated, through the hole that was perforated in the interval between 4280 and 90 came on into the drill pipe and flowed out to the surface,

(Testimony of T. M. Johnston.)

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(Testimony of T. M. Johnston.)

and it had a strong blow of air for seven minutes. That drill pipe naturally is filled with air, and anything that comes in has to force the air out before it can reach the surface. So it took seven minutes to push all the air out of the drill pipe and then the gas showed up. The gas was the force propelling the air out of the drill pipe.

Q. To make a long story short, is this the test that you got 100,000 cubic feet a day rate on?

A. Estimated 125,000 cubic feet.

Q. 125,000. We know what test you are talking about now.

Q. (By Mr. Scampini): What pressure does the chart indicate was found at the bottom?

A. Well, I don't have the chart.

Q. I show you here the pressure chart of October 27th and I will ask you to look at it and state what it indicates in respect to the pressure found at the bottom of the hole.

A. Well, it shows here that the flow period, the actual times the tool was left open, was 18 hours, and the flow pressure—they open the tool and then it apparently it blew by heads, that is, the gas would break in, then it would subside, and it would surge again, and when it would surge the pressures [349] would increase, and they went up to approximately 1000 pounds, and then we closed the tool in, and the pressure had a build up to about slightly over 2000 pounds, and then the tool was opened and fell back down to atmospheric pressure, the pipe being dry, and then the next time we opened the tool, let it set

(Testimony of T. M. Johnston.)

for about sixteen hours, and it had a build-up—it fell to approximately 500 pounds, and then the final pressure, when the packer was pulled loose and the drill pipe taken from the hold, was about 1250 pounds.

Q. Based upon your experience, can you state whether or not a pressure built up to 2100 pounds while the well was closed in is considered a high pressure zone or a low pressure zone?

A. Well, a 2000-pound pressure on a 4000-foot well I would say was a good pressure. As a matter of fact, if you had much more pressure than that you would have to considerably weight your mud, put considerable weight in your mud to keep the fluid from over-balancing and flowing out.

Mr. Scampini: That will be all. You may take the witness. I can't offer this in evidence because it is already in evidence on the plaintiff's side. At the same time I want these charts to be in evidence on the defendants' side.

The Court: It does not make any difference, Mr. Scampini. They are in evidence. It does not make any difference who offers them. They are there.

Mr. Bourquin: Shall I proceed, your Honor?

The Court: Can you conclude before noon?

By Mr. Bourquin:

Cross-Examination

By Mr. Boufquin:

Q. The last question that counsel asked you, he asked you from your experience was that a high pressure or a low pressure?

(Testimony of T. M. Johnston.)

You said it was a good pressure. Please tell us whether it was a high pressure or a low pressure?

A. Well it would not be a high pressure for a 10,000-foot well, but for a 4200-foot well, yes, I would say it was a high pressure.

Q. In other words, what was encountered there on October 27, 1943, was a high pressure?

A. Yes, sir.

Q. How much is atmospheric pressure——

A. Nothing.

Q. In pounds per square inch.

A. That I don't know.

Q. Have you any idea? A. No.

Q. This pressure that you encountered at the bottom of the hole on October 27, 1943, was in excess of 2000 pounds? A. Yes, sir.

Q. Doesn't your chart indicate that it was in excess of 2100 pounds? Doesn't the chart indicate it to be about 2125? A. Something like that.

Q. The tests that you testified to here this morning and that you have interpreted for us were all made in the operation of 1943? A. Yes, sir.

Q. None of them were made in 1944?

A. Well, no. [351]

Q. Your outfit did not return to the well and make any tests in 1944, did you?

A. Well, I don't know whether we did, or not.

Mr. Scampini: I will stipulate that they did not.

The Court: That is correct, isn't it?

Mr. Scampini: Right. I will stipulate that no Johnston formation test was made in 1944.

(Testimony of T. M. Johnston.)

Q. (By Mr. Bourquin): And none was asked for?

A. I don't know about that, whether it was, or not. I travel all over the country, and they could have called in and asked for a test, and for some reason we could not have made it, or they could have had trouble and not been able to make it. I don't know about that.

Q. The sum and substance of the tests that you know about and have told us about here this morning is the succession of tests that were made by your company in October, 1943; that is correct, isn't it?

A. That is right.

Q. Which on successive tests shows that at depths ranging in the neighborhood of 4200 feet various pressures were encountered, is that correct?

A. Yes, sir.

Q. The highest of which was about 2125 pounds; that is correct, isn't it?

A. Yes, sir.

Q. And the estimated volume of gas there was rated at from 100,000 to 125,000 cubic feet per day?

A. Yes, sir.

Q. That is correct?

A. Yes, sir. [352]

Q. That is all the tests showed, isn't it?

A. Yes, sir.

Mr. Bourquin: That is all.

Q. (By the Court): A well with that much pressure could produce a lot more gas than that per day, couldn't it?

A. Yes, I would say it would be able to produce considerably more. As a matter of fact, the 125,-

(Testimony of T. M. Johnston.)

000 cubic feet was merely an estimation. From my experience on other wells that we have tested over the country, and to see the volume of gas that was coming out, if I, myself, had made the estimation I would have estimated it to be more than 125,000 cubic feet.

Q. But it was not there?

A. That is what the man who made the estimate said, and that is what was put on our ticket. After all, I did not have equipment to test it with; just an estimation is all the man made.

Q. (By Mr. Bourquin): You will concede that you can have pressure without volume, won't you?

A. Yes.

Q. But pressure of 2125 would be sufficient pressure to produce a commercial volume of gas if there was a commercial volume present? Wouldn't that pressure be sufficient for that?

A. Well, we might have been able to increase the size of the bean in the bottom of the tool——

Mr. Bourquin: I will interrupt and ask that that be stricken as not responsive and ask the witness to answer the question.

The Court: Of course, it may have something to do with it. [353] The aperture has something to do with it, but I think you can get an answer to your question.

Q. (By Mr. Bourquin): Can you answer "Yes" or "No": Is a pressure of 2100 pounds sufficient to produce a commercial volume of gas if a commercial volume is there?

(Testimony of T. M. Johnston.)

A. I would say it would be, yes.

Q. It is higher than normal, isn't it, for 4200 feet?

A. That is right.

Q. What is the normal pressure for 4200 feet?

A. Well, I don't know.

Q. Do you know what normal pressure is to be measured by? Do you know its relationship to the hydrostatic head of the water which has collected that gas?

A. We cut the hydrostatic head. After a packer is set and the set is in progress, the hydrostatic head has absolutely nothing to do with the test.

Q. Do you know what the hydrostatic pressure of a column of water of 4200 feet would be?

A. I can take this chart and show you what it would be in that particular well.

Q. Do you know what it would be?

A. You say water?

Q. Yes, a hydrostatic head of water 4200 feet.

A. It would be approximately 2100 pounds.

Q. 2100?

A. That is right.

Q. Wouldn't it run around .4 of a pound a foot? Wouldn't it be about 1700 pounds at a depth of 4200?

A. I said approximately. [354]

Q. Isn't 2100 a normal hydrostatic pressure at 5000 feet?

A. I was speaking of drilling fluid, which is not water. They always have mud in it, and we figure it in the oil fields about a half a pound per foot in depth. If you have a 5000-foot well with normal drilling fluid, where you have not encountered any

(Testimony of T. M. Johnston.)

excessive pressures, you have approximately 2500 pounds hydrostatic head of mud.

Q. Of mud?

A. That is right, of drilling fluid.

Q. Who is the man who made these tests?

A. I wouldn't know.

Q. Could you know from the tickets?

A. Oh, I made some of the tests, yes.

Q. You made some of these tests?

A. Yes.

Q. Did you make the test of October 27, 1943?

A. Let me see that, will you? Yes, sir, I made that test.

Mr. Bourquin: That is all.

Redirect Examination

By Mr. Scampini:

Q. You were present when the gas coming from the well was seen by you, weren't you?

A. Yes, sir.

Q. Can you state what your opinion is as to the volume of gas coming from that well?

Mr. Bourquin: Your Honor, is this proper redirect examination? The witness is here to testify from scientific tests. We object to this as calling for an opinion and conclusion on a matter which appears to be the subject of scientific determination. [355]

Mr. Scampini: I am going to prove the test as to volume was not made by Mr. Johnston, nor by the Johnston Formation Tests, but was made by certain

(Testimony of T. M. Johnston.)

individuals who were present there; that the Johnston Formation Test does not test the volume of gas being produced, but merely tests the pressure and whether or not the formation is productive.

Mr. Bourquin: It is on the report, your Honor, and I would question whether this man would have——

The Court: You had better let this matter go until after lunch. You may be in a way cross-examining your own witness.

Mr. Bourquin: He is.

Mr. Scampini: I do not think so, your Honor.

The Court: Let us defer the matter until after the recess. We will take the noon recess at this time, ladies and gentlemen. Please return at two o'clock. Bear in mind the admonition of the court.

(A recess was thereupon taken until two o'clock p.m.) [356]

Afternoon Session, January 28, 1947

2:00 o'Clock P.M.

The Court: The jury is present. You may proceed.

T. M. JOHNSTON

recalled on behalf of Defendants:

Redirect Examination

By Mr. Scampini:

Q. Mr. Johnston, does the test made by the M. O. Johnston Oil Field Service Corporation in the testing of wells, and particularly in the testing of Faria Well No. 1 on October 27, 1943, does that extend to testing the formation of gas being produced therefrom during the course of your test?

Mr. Bourquini: We submit the report is the best evidence.

The Court: What is the purpose of the question?

Mr. Scampini: The purpose of it is to show that in the course of making a Johnston formation test other experts are called in by the Johnston Formation Service to determine the volume of gas or oil coming out of these small openings.

The Court: You mean, what you are going into is the technique by which it is determined, or the amount per day of gas that can be produced is determined?

Mr. Scampini: Well, I propose to go into it to merely show the notations found on the ticket for October 27 as to the estimate of gas being produced are the notations of these [357] other experts that

(Testimony of T. M. Johnston.)

are there making a test as to the volume and who report the estimate to him.

The Court: Well, in a Johnston test, don't you stand behind your test? When you tell somebody you make a test and his property is producing 125,000 cubic feet of gas a day, do you report that?

A. (By the Witness): No, absolutely not.

The Court: What do you get paid for?

The Witness: We get paid for running the mechanical equipment. In other words, the companies that we perform our services for have their own engineers on the job and they get all that data.

The Court: You mean you only furnish the equipment?

The Witness: That's right.

The Court: Well, I think Counsel should be permitted to develop the manner in which the test is taken.

Mr. Scampini: Will you read the question, Mr. Reporter?

(The question was read by the reporter.)

A. (By the Witness): Well, when we run our mechanical equipment and set the packer above the producing formation we allow anything that comes through the perforations in the casing to reach the surface and the company to whom we are giving this service, or selling this service, usually have their own engineers or outside engineers there to make estimates or scientific tests to arrive at a figure of production, [358] whether it be gas or oil or water.

(Testimony of T. M. Johnston.)

Q. (By Mr. Scampini): Did that take place in this instance?

A. Well, there were two young fellows there who gave me this estimate.

Q. The estimate that is on your ticket for October 27 and 28, whose estimate is that?

A. The two young fellows who were there and supposedly gas engineers, I never saw them before or haven't seen them since.

Q. You put down the estimate that was given or furnished you by these two engineers, is that correct? A. Yes.

Mr. Bourquin: I may say, Counsel called this witness. He has brought him some distance, I understand. He put him on the stand. He produced his reports. He offered them in evidence as his evidence in this case. Now, he has come to a point in the examination of his own witness where he wants to impeach the reports. I object on the ground it is cross examination of his own witness. It is not redirect and on the ground stated before that the reports themselves are the best evidence.

The Court: On the subject of the objection that it is not really proper redirect examination, on cross-examination Counsel did not question the accuracy of the reports.

Mr. Scampini: I am not questioning the accuracy of the reports. I am laying the foundation for proving the volume estimate is not the volume estimate of the witness on the [359] stand, but that the volume estimate that is on the ticket is furnished to

(Testimony of T. M. Johnston.)

him by these other experts, and I am not questioning the accuracy of their findings, but it is not the estimate of the witness on the stand, nor am I trying to impeach him.

Mr. Bourquin: Why did Counsel for the Defendants bring Mr. Johnston to San Francisco and put him on the witness stand? They had these reports. They were there when they were made. They did not need him to identify them. Now they say they don't want to accept the material in the reports. That is the effect of what Counsel just indicated.

The Court: I understand from what Counsel just said that he stands upon the showing that there was a production of 125,000 cubic feet a day; he merely wants to show how the test was made.

Mr. Bourquini: Oh, I misunderstood.

Mr. Scampini: That's right, your Honor. That is all, no further questions.

The Court: Any further matters of this witness?

Mr. Bourquin: No further questions of the witness.

E. A. BENDER

called as a witness on behalf of the Defendants; and having been first duly sworn, testified as follows:

The Clerk: Will you state your name to the Court and Jury? [360]

A. E. A. Bender.

(Testimony of E. A. Bender.)

Direct Examination

By Mr. Scampini:

Q. Mr. Bender: What is your business or occupation?

A. Oil well drilling contractor and oil producer.

Q. What is the name of the concern with which you are connected?

A. Bender Oil Operations.

Q. Where do you operate?

A. Bakersfield.

Q. Do you, in the course of your activities, drill oil wells under contract? A. Yes.

Q. How long have you been engaged in the business of drilling oil wells?

A. About twenty years.

Q. Have you ever drilled any natural gas wells?

A. Yes.

Q. Where have you drilled natural gas wells?

A. In Kern County, various places.

Q. Have you ever drilled any natural gas wells in or around the district of Rio Vista or McDonald Island? A. No.

Q. Or any part of Northern California?

A. Oh, yes, I have; that's right.

Q. Where have you drilled in northern California? A. In the Willows district.

Q. How long have you been engaged in the drilling business? A. As a contractor?

Q. Contractor or—— A. Since 1935. [361]

Q. Have you drilled any wells for the Government, oil wells? A. Yes.

(Testimony of E. A. Bender.)

Q. Have you owned or operated any oil properties? A. Yes.

Q. How long have you been operating oil properties? A. You mean as a producer?

Q. Yes. A. About three years.

Q. Did you have occasion to visit the property of Cal Bay Corporation at or about November of 1944?

A. Yes.

Q. Under what circumstances did you visit those properties?

A. As scouting for possible gas territory.

Q. Did you know Mr. Faria at that time?

A. Yes.

Q. When had you met Mr. Faria?

A. About 1942 or '43.

Q. When did you first appear on the properties of the Cal Bay Corporation?

A. It was the day before Thanksgiving, 1944.

Q. What was going on at that time?

A. They were drilling.

Q. What depth were they drilling, if you know?

A. Close to five thousand feet, I think.

Q. What did you observe?

A. I talked to the crews and I saw they were making hole slowly and they had a load of mud, heavily mudded. I talked with the crew at length and studied the conditions of the well.

Q. Did you make any observations of the mud coming out in the course of drilling?

A. Yes. The mud was in very nice condition, there were slight gas bubbles, not an unreasonable [362] gas cut with regard to that.

(Testimony of E. A. Bender.)

Q. What equipment was being used by Cal Bay for the purpose of drilling this well?

A. A standard steam rig, rather oil, but quite reliable.

Q. Have you any opinion or knowledge as to the reasonable rental value of standard steam drilling outfits prevailing at that time?

Mr. Bourquin: We will object to this line of testimony, your Honor, on the ground it is irrelevant and immaterial, and no foundation has been shown in this sense, that what it would cost to drill a well would have no bearing on the question of market value of the lease until it was first shown there was something at the end of the drilling that would justify, let's say, a continuation of the well.

The Court: Your objection goes to the order of proof? You say there has not been any foundation laid?

Mr. Bourquin: Well, it goes to both, your Honor. I really feel that when we come to the question, as we have to, in this case, of market value, whatever it cost to make the property of some value in the future, it is speculative testimony, except that we are trying to arrive at the worth of the property.

The Court: When it comes to testimony as to the value, the person who evaluates may give the factors including cost, will give reasonable cost for drilling the well and the [363] equipment, that he may take into account. It is something separate as to valuation.

(Testimony of E. A. Bender.)

Mr. Scampini: I agree with your Honor's theory as it being the reasonable lost for drilling Faria Well No. 1, which would have to be taken into consideration by any expert in valuing the leasehold, that would have to be fixed by someone who is skilled in the business of drilling wells. I intend to use Mr. Bender for that purpose only.

The Court: With that statement of Counsel as to his purpose, I will allow the question. The objection will be overruled.

Mr. Bourquin: Isn't it understood, your Honor, as heretofore, that rulings are deemed to be excepted to? That is repetition to take an exception.

Mr. Scampini: Yes.

Mr. Bourquin: If your Honor is agreeable. We have done that heretofore in this court, exceptions are deemed to be taken.

The Court: Yes. I think Judge MacCormack wrote a decision in Los Angeles some years ago in which he said that that was an abortive procedure, but as far as I am concerned, I think it is silly to have to bob up and say you wish to take an exception. It is agreeable to me that both Counsel may have an exception to any ruling and it *may* deemed to be taken. [364]

Mr. Scampini: Yes. There is a debate as to whether the new rules include the necessity of taking exceptions.

The Court: Well, condemnation proceedings are excluded from the rules.

Mr. Scampini: We will stipulate there may

(Testimony of E. A. Bender.)

always be deemed an exception. Mr. Reporter, can you find the question? If so, will you read it?

(The record was read by the reporter.)

A. (By the Witness): You mean on that drilling?

Q. (By Mr. Scampini): Yes.

A. A rental usually, a rig of that size would rent for \$150 a day.

Q. How long did you remain on the property of the Cal Bay Corporation?

A. On the first day possibly an hour or an hour and a half.

Q. Then did you go back? A. Yes.

Q. Did you go back to the property?

A. About three or four or five days later.

Q. What had occurred in the meantime?

A. The first report we had when we got back was the drill pipe was stuck and they were circulating, the mud was circulating, and they were making preparations to spot oil to loosen the drill pipe.

Q. Did you notice any change in the appearance of the mud when you came back at that time?

A. Yes, I took particular pains to look at the mud and found it was more fluffed with the gas ends and had showings of oil in it. I don't know whether [365] that was formation oil or oil that had been spotted or what?

Q. Mr. Bender, based upon your experience as a drilling contractor, can you state, or have you any opinion as what would the reasonable cost of drill-

(Testimony of E. A. Bender.)

ing the Faria well in the years 1943 and 1944 at the location where it was being drilled to a depth of 4,975 feet?

Mr. Bourquin: Same objection, your Honor.

The Court: Same ruling.

A. (By the Witness): You mean a contract drilling?

Q. (By Mr. Scampini): Yes, the reasonable cost figure?

A. Wildcat territory like that, it is difficult to establish a flat rate. Contractors do not like to take jobs on a flat contract basis. As a contractor I studied the situation at the time and I estimated \$150,000 to 5,000 feet, figuring to make a profit if everything goes well mechanically; if it does not go well mechanically a contractor has to sustain a loss.

Mr. Scampini: No further questions.

Cross-Examination

By Mr. Bourquin:

Q. Mr. Bender, when you gave us your opinion as to rental, to the reasonable rental value of drill equipment, are you taking into account the condition of the equipment? A. Yes.

Q. That would be a factor, of course, in determining what that particular piece or set of equipment ought to rent for? [366]

A. That's right.

Q. Did you know this equipment at that time that you saw in operation on that well in 1944; did you know that equipment?

(Testimony of E. A. Bender.)

A. I did not particularly study it. I knew it was a steam rig which we don't use much any more at the present time because they have become obsolete, and had a good set of drill pipe, if I remember correctly, and drill pipe at that time was renting for a cent a foot a day, daily rental, and Mr. Faria had an awful lot of auxiliary equipment. The bare machinery without all the auxilliary equipment would rent for \$100 a day possibly, which is a condition in all rigs, regardless——

Q. Pardon me. Do you understand the question? Did you know where that particular equipment had come from?

A. I know the man that sold it to Mr. Faria in the first place, yes.

Q. Did you know something about its condition?

A. No, I did not know the mechanical condition at all.

Q. Were you interviewed by an agent of the Federal Bureau of Investigation? A. Yes.

Q. The early part of the month, Mr. Bender?

A. Yes.

Q. Where was it the FBI man interviewed you?

A. My office.

Q. In Los Angeles? A. Bakersfield.

Q. What day was that, please?

A. I don't know; possibly sixty days ago.

Q. Was it the early days in November of last year? [367]

A. I don't recall; possibly around December.

Q. Did the man interview you on more than one occasion? A. Just once.

(Testimony of E. A. Bender.)

Q. Do you recall, was it Mr. Peters, Roy Peters, of the FBI, who interviewed you?

A. I don't recall the name.

Q. Did he show you his credentials?

A. Yes.

Q. And identified himself as an agent of the FBI?

A. Yes.

Q. And told you he was looking into this matter?

A. That's right.

Q. On that occasion, did you tell Mr. Peters that this equipment had been unloaded on the Cal Bay Corporation by Harold Henry?

A. That's right.

Q. Did you tell him that the whole thing originated in a fraud, or a fraudulent desire by Henry to unload some old machinery?

A. I think I made the statement that, "I think that Mr. Faria did not get his money's worth."

Q. Did you tell him that Mr. Henry had sold Mr. Faria the idea that there was some oil up there where he could use that rig?

A. No. I think—let's see—May I have that question again?

Mr. Bourquin: Will you read the question, please?

(The question was read by the reporter.)

A. (By the Witness): No, I don't know a thing about that.

Q. Did you tell Mr. Peters that Henry had convinced Mr. Faria there was oil there merely to unload his old machinery on him? [368]

A. I don't know a thing about that.

(Testimony of E. A. Bender.)

Q. What do you mean, you don't know a thing about it; what do you mean?

A. That Mr. Henry would have told me he was unloading this on Mr. Faria.

The Court: No. He asked you whether you told the FBI agent that.

A. (By the Witness): No.

Q. (By Mr. Bourquin): You did not tell him that. Did you tell him that in substance, that Henry had convinced Faria there was oil in this locality in order for him, Henry, to unload his machinery on Faria; did you tell Mr. Peters that?

A. I don't think that he should take that attitude.

Q. Please answer. Did you tell him that?

A. No, I did not.

Q. You did not? A. No.

Q. Did you tell Mr. Peters that Henry had in fact told you that he had located Faria as a sucker for his own machinery?

A. Well, words to that effect, yes.

Q. You did tell Mr. Peters that?

A. Not in those words. Mr. Henry—May I repeat what Mr. Henry told me?

Q. Go ahead.

A. That he had a party in the north somewhere that is paying him big rental on the equipment and I presumed it was Mr. Faria; at the time I did not know Mr. Faria.

Q. Let me go back. Did you tell the Agent of the

(Testimony of E. A. Bender.)

FBI that [369] Mr. Henry had told you once that he had located Faria as a sucker for his own machinery?

A. May I have that question again?

(The question was read by the reporter.)

A. (By the Witness): I never made that statement. I could answer that in a different way, though.

Mr. Bourquin: May I have the last part of the answer?

(The record was read by the reporter.)

Q. (By Mr. Bourquin): Well, I am only interested in whether he made the statement.

A. The word "sucker" is——

Q. What?

A. The word "sucker" is a very broad statement and where this agent possibly assumed that that was said in substance, but it was not intended that way.

Q. Well, you are going to tell us what the agent heard, but we want you to tell us what you said to the agent. You understand the question in that respect, don't you? A. That's right.

Q. At the same time did you tell the agent, Peters, that you had been in that locality in November, 1944, about the 23rd, at the opening of the hunting season? A. That's right.

Q. In other words, you told him that at the opening of the hunting season you were in that locality and made a visit to that well? A. True.

Q. And that that was about November 23?

A. Yes.

(Testimony of E. A. Bender.)

Q. Is that correct?

A. I told him it was the day before [370] Thanksgiving, whatever the date was.

Q. Did you tell him that at that time they were slowly rotating in the hole, but having trouble with the pipe?

A. No, not the first. On the first visit they were drilling ahead slowly and apparently had no trouble.

Q. You remembered, did you then, that the first visit on the 23rd, or the one you took at the opening of the hunting season, you did not tell the agent, Peters, that at this well they were slowly rotating in the hole, but having trouble with the pipe?

A. That's right.

Q. You did not tell him that on that occasion?

A. They were rotating slowly and had no trouble with the pipe.

Q. You did not tell him they were having trouble with the pipe? A. No.

Q. Did you tell him you saw the well again two days after the blowout?

A. No; the well had not blown at the second visit. The pipe was stuck.

Q. You did not tell him you saw it again two days after it blew out? A. No.

Q. Did you see it two days after it blew out?

A. No; I never saw it after it blew out.

Q. Did you tell the agent of the FBI on the occasion we are referring to that two days after the blow-out you saw oil sand on the hillside and observed evidence of the presence of light oil in commercial quantity? A. No. [371]

(Testimony of E. A. Bender.)

Q. Did you tell him that?

A. No; that was hearsay; that was what they said later on.

Q. Did you also tell Agent Peters at that time that any competent man would have known they could not get oil there because that was gas country?

A. No, I did not tell him that.

Q. Now, Mr. Bender, you drill wells, don't you?

A. Yes.

Q. So far as this question of the cost to drill a well, that will depend somewhat on the well, will it?

A. That's right.

Q. You drill a well south of Bakersfield, or you did drill one that was completed about last March, didn't you, with a Mr. Hoover? A. Yes.

Q. You drilled that well to thirty-six or thirty-seven hundred feet?

A. To about forty-two hundred, I guess, something like that. [372]

Q. In the course of that drilling you encountered rainbow-colored sand; that is correct, isn't it?

A. In most wells we do, yes.

Q. You did in that one? A. Yes.

Q. You encountered considerable gas, didn't you?

The Court: You will have to answer up. The reporter can't get your answer when you shake your head.

The Witness: The fact is, you see that in all oil territory. I presume we did, yes.

(Testimony of E. A. Bender.)

Q. (By Mr. Bourquin): You did encounter considerable gas?

A. Encountered considerable gas.

Q. Did you abandon that well or did you bring it into production?

Mr. Scampini: We object to this line of examination as not proper cross-examination.

The Witness: The fact is, with Mr. Hoover I dripped two wells——

The Court: Just a moment, Mr. Witness. Counsel has objected on the ground it is incompetent, irrelevant, and immaterial. What is the point of this inquiry? Is it directed to his competency to testify?

Mr. Bourquin: It was really on the question of cost, and perhaps I did go over the fence a little bit in questions I just asked in that they are not proper cross. I will abandon that line of questions and ask him this:

Q. What did it cost to drill that well that you drilled south of Bakersfield with Mr. Hoover last March? [373]

Mr. Scampini: We will object to the question on the ground that the cost of drilling a well in Bakersfield has no comparable relationship to a well being drilled for the first time in a new location in the hills above Contra Costa, because the situations are not comparable for the purpose of determining cost.

(Testimony of E. A. Bender.)

Mr. Bourquin: I think that goes to the weight.

The Court: I think it goes to the question of the witness' qualifications to give an opinion as to the cost of drilling this well. I will allow it.
Overruled.

Q. (By Mr. Bourquin): What was the cost?

A. If we completed the well it should have been between ten and twelve dollars per completed foot.

Q. I want to ask you what you spent in that particular well.

A. Could I ask which well it was? Could I ask Mr. Hoover over here which one it was?

Q. Which one are you talking about when you said you drilled four?

A. In the Edison District, which we did not complete.

Q. How much did that cost?

A. I think we had that contract for four and a half a foot for the actual drilling.

Q. What did it cost?

A. At that rate it would be about \$18,000 for the drilling—not the casing of the well, just the drilling.

Q. What was the over-all cost? Was it about \$21,000?

A. It should have been about \$10 a foot, or if it was 4100 [374] feet, it would be actually \$41,000.

Q. \$41,000? A. Yes.

Mr. Bourquin: I think that is all.

(Testimony of E. A. Bender.)

Redirect Examination

By Mr. Scampini:

Q. Mr. Bender, does the criterion of \$10 a foot apply in the case of drilling a well on an entirely new structure which has not been drilled before?

A. No.

Q. When you drill on an entirely new structure you haven't any past history to go by, have you?

A. That is right.

Q. You have coring to do, which you may not have when you are drilling in well known structures?

A. That is right.

Q. You do not know the nature of the formation that you may penetrate in the course of drilling a new structure?

A. That is right.

Mr. Bourquin: Isn't this leading and suggestive? Or do you want the witness to testify? We will object to it, your Honor, on that ground.

Mr. Scampini: I do not think this witness need be led or suggested.

Mr. Bourquin: Then why do it?

Mr. Scampini: We will try to avoid it. I think the information will be the same.

Q. When you go out to bid on a contract for the drilling of a well on a new structure, what factors do you take into consideration in estimating the cost of drilling that well? [275]

Mr. Bourquin: I object to that as not proper redirect, your Honor. I do not have a serious objection, but I make one in the interest of time.

(Testimony of E. A. Bender.)

He has already offered evidence from this witness as to cost. Now we come to redirect and he wants to go further into the same subject.

The Court: Strictly speaking, it is not proper redirect, but if you want to ask the witness what factors he took into account in giving his estimate on the ground that you did not ask him that on direct examination, I think that can be done at this stage.

Mr. Scampini: I will do it on that ground, your Honor.

The Witness: First we take a geological report and hope that the report is correct, and know the nature of the formation that we go through. Then we compile data from the nearest well drilled in that community as closely as we can get. If, let us say, we have a well within a mile, we have very good history.

The Court: I think what counsel wants to know is what factors you took into account when you gave your estimate of \$150,000 in the case of this well.

Mr. Scampini: That is right.

The Court: That is what counsel is interested in: What were the things you took into account?

The Witness: The knowledge or the information that I had on the well to the depth that this well had been drilled; [376] all the troubles that they had encountered, less the more efficient equipment that we put on a well, and possibly better engineering, that could cut the cost considerably, because of the experience already gained by the type of information that they had encountered.

(Testimony of E. A. Bender.)

Q. (By Mr. Scampini): If you had gone there to bid for this job of drilling the Faria well from its inception and did not have any past experience to go by, what factors would you consider in making your bid?

A. I would have made a bid on only one basis, and that would have been on a daily operating cost, which in this instance would have been about \$750 per day.

Q. In the case of the well that was drilled by you at Edison, that cost and over-all figure of \$41,000, did you have any unknown factors involved? A. Very few.

Q. Had the structure or the surrounding territory been drilled prior?

A. Oh, yes, yes, many wells.

Q. Did you have any history to go by as to the formations which you expected to penetrate?

A. I had the experience of about thirty wells that I personally drilled for other companies in the immediate district.

Q. When you have that experience and that knowledge, isn't it normal that the cost is reduced in connection with the drilling of such wells?

A. Well, we will know within ten per cent of what our cost will be.

Mr. Scampini: That is all. [377]

(Testimony of E. A. Bender.)

Recross-Examination

By Mr. Bourquin:

Q. Mr. Bender, you said you drilled a well up in Willows, is that correct? A. Yes.

Q. When and where?

A. In 1942, for the Ohio Oil Company.

Q. What was the name of the well?

A. There are only four gas wells drilled there. I forget the name. The wells are always named after the landowner that the well is drilled on, but it was drilled by the Ohio Oil Company.

Q. It was drilled by the Ohio Oil Company?

A. Yes.

Q. You say there are only four gas wells that have been drilled up there?

A. I think we drilled the fourth one.

Q. How did that come out?

A. The well we brought in was a rather small well.

Q. What depth? A. About 3200 feet.

Q. What happened to the well afterward?

A. I don't know what they have done with it. I think they are producing and selling gas to the town of Willows——

Q. Do you know that?

A. I am not sure. I presume they are.

Q. What did you spend to drill that well?

A. We did that for the Ohio Oil Company. I forget the contract price, but I know we did most of our work on a daily basis.

(Testimony of E. A. Bender.)

Q. Can't you remember the name of that well?

A. I don't recall. We drilled a hundred wells a year at that time, and it is difficult to remember all of them.

Q. Was it the Willard?

A. I presume it was. [378]

Q. Was it the Willard No. 1?

A. I think so. It was within a half mile of a big blow-out in the Willows district, where they have a big crater.

Q. Don't you know that the Ohio Company quit-claimed those wells up there?

A. No, I don't know that.

Mr. Bourquin: That is all.

E. L. MOHR, Jr.

called as a witness on behalf of defendants; sworn.

The Clerk: State your name.

A. E. L. Mohr, Jr.

Direct Examination

By Mr. Scampini:

Q. Mr. Mohr, what is your business or occupation?

A. I am a service engineer for Baroid Sales Division of the National Lead Company.

Q. And what is the Baroid Sales Division of the National Lead Company?

(Testimony of E. L. Mohr, Jr.)

A. That is a service organization for the purpose of selling various types of materials for the drilling of oil wells, and the conditioning of drilling fluids.

Q. In connection with the material sold by this concern, do you handle materials also for the drilling of gas wells? A. Yes.

Q. How long have you been a service engineer for the Baroid Sales Division?

A. I started to work for Baroid Sales Division in August, 1941, and I have been in the service engineering part for three and a half years.

Q. What is your present position with that concern?

A. I am the district superintendent of the San Joaquin Valley.

Q. As such, in what fields have you worked, oil or gas?

A. Worked in all fields in the San Joaquin Valley.

Q. Name some of them.

A. Edison field, Coles Levee, Paloma field, Tenth Section field, Rio Vista field, the Willows gas field, Marysville gas, Chico gas field.

Q. Referring to the map on the board, which is Exhibit for Identification No. 11, please indicate on the map where the Willows gas field, the Marysville gas field, and the Rio Vista gas field are. for the benefit of the jury.

A. This is the Marysville gas field, right here (indicating), Sutter Buttes. This is the Willows

(Testimony of E. L. Mohr, Jr.)

gas field in here, and this is the Chico gas field on this side, and one well on the other side.

Q. Where is the Rio Vista field?

A. Rio Vista is right here (indicating).

Q. Did you have occasion to do some work on the well known as Faria No. 1, being drilled by the Cal Bay Corporation? A. Yes.

Q. Will you please point out on the map the location of that well in relation to Rio Vista?

A. This is the Rio Vista field, here. It is right in this area in here. Antioch, Pittsburg—this is the point here by Martinez.

Q. When did you first go to work for the Cal Bay Corporation? [380]

A. I was called from Coalinga to come to the Faria No. 1 for the Cal Bay Corporation on October 30th, and I arrived October 31, 1944.

Q. When you arrived there, what did you observe?

A. Well, they were having a great deal of trouble. They had the drill pipe pulled up into the casing, and they were circulating and trying to condition mud to go ahead and make hole. They were having shale, gas and salt water trouble.

Q. What were you hired for?

A. I was brought up solely to condition the mud to enable them to go ahead and make hole.

Q. What did you do for that purpose?

A. Well, the only thing we could do at that time was to raise the mud weight up to where the hydrostatic head could overcome the difficulties they had.

(Testimony of E. L. Mohr, Jr.)

Q. What do you mean by the hydrostatic head?

A. That is the pressure exerted by the column of mud against the formation.

Q. What weight of mud did you find when you first started to work?

A. When I arrived the weight of the mud was 77½ pounds per cubic foot.

Q. What did you do in respect to building up the weight of the mud?

A. We added baroid or barium sulphate to increase the density of the mud.

Q. To what weight did you increase it?

A. We went up systematically in order to find a spot by which we could maintain the formation pressures and to hold the shale back and still go ahead and drill without using too much weight material. [381]

Q. Did you keep notes or make any notes of the work that you did?

A. Yes, I have a regular service test report.

Q. Have you got that with him?

A. Yes, I have my copies of those reports here.

Q. Are they in your handwriting?

A. Yes.

Q. Will you please state how many days it took you to build up the mud weight from 71-odd pounds to 96 pounds, did you say?

A. Yes, 96 pounds was the first weight.

Q. Will you please state on what date you had built the weight up to 96 pounds, from your notes?

A. Can I go through my notes and find it?

(Testimony of E. L. Mohr, Jr.)

Q. Yes, you may.

A. On November 1st we had raised the mud weight up to 93½ pounds, and on November 3rd we had it at 99 pounds.

Q. When you reached a weight of 99 pounds what resulted?

A. Well, 99 pounds was sufficient to proceed to start to clean out the shale conditioned below, so they proceeded at 99 pounds. However, that was not sufficient.

Q. Then what did you do?

A. We raised the weight again.

Q. To what weight did you raise it?

A. We raised it to approximately 105 pounds at that time.

Q. When did that take place?

A. On November 6th the mud weight was 105 pounds.

Q. What causes the shale or the formations to come in in the course of drilling a well?

A. It can be a variety of reasons. [382] The formations can be a Frankfort shale zone, if the fluid loss of the mud is high, it can expand the shale particles involved to force them to take the way of least resistance, which courses into the hole. That would be one type of sloughing into the hole. Another type could be just a very finely ground shale which could be sloughed into the hole, but it all goes back to the fact that if the hydrostatic pressure of your mud is insufficient or you haven't some type of sealing, it will possibly run in on you.

(Testimony of E. L. Mohr, Jr.)

Q. Did you notice any gas or oil in the formations coming out of the well?

A. You mean in the cuttings?

Q. In the cuttings.

A. I did not examine the cuttings too closely. The only indication of gas I had was in the drilling mud, itself.

Q. Where would that be made apparent to you?

A. Do you mean in the drilling fluid?

Q. Yes.

A. Well, the gas and oil will fluff the mud up and make it appear as small minute bubbles in the drilling fluid.

Q. After reaching a weight of 105 pounds, did you leave the premises of the Cal Bay Company?

A. Yes, I was working several jobs in the territory at the time. I left and came back to Bakersfield.

Q. When did you come back to Bakersfield?

A. To Bakersfield?

Q. Yes. A. On November 3rd.

Q. When did you go back to the property of Cal Bay? [383]

A. Let's see. It was November 17th.

Q. When you got back to Cal Bay on November 17th what did you observe?

A. Well, they had to raise the mud weight up to 110, 112 pounds.

Q. Have you any opinion as to the reason why they had to raise the mud weight to 112 pounds?

A. Well, the shale condition was such that it required that weight of mud in order to conquer it.

(Testimony of E. L. Mohr, Jr.)

Q. What did you observe in respect to any gas coming from the well and being seen in the mud fluid coming out of the well?

A. Gas indications were very slight at the time, because of the fact that they were agitating the pits in order to aerate any gas that was entrained in the mud.

Q. At what depth were you drilling at that time?

A. On the 17th of November my report states that the depth was 4440 feet, which would indicate that they were cleaning out at the time. It was not the bottom hole depth.

Q. What was the bottom of the hole at that time?

A. I believe it was in the neighborhood of around 4840 feet.

Q. And you say that they were cleaning out a formation at approximately the 4400-foot level, is that right? A. That is right.

Q. Was that the formation at which trouble was being met in the course of controlling it?

A. Well, I can only assume that it was, because it was there. It would certainly not rise too far from the hole. It must have been opposite. [384]

Q. Were you able to clear up the trouble at the formation at the 4400-foot level? A. Yes.

Q. After that was cleared up, did they continue drilling, so far as you know? A. Yes.

Q. Did you remain there every day after that?

A. I was there on November 17th, 18th and 19th, and then I left for a few days.

Q. Where did you go?

(Testimony of E. L. Mohr, Jr.)

A. I was at Cal Bay on the 20th; then on the 22nd I remained in the immediate territory—in other words, I was in Rio Vista.

Q. Were you subject to call at the Cal Bay property?
A. Yes.

Q. On what day did you come back?

A. I came back on the 24th of November.

Q. Do your notes indicate the reasons why you came back on that date?

Mr. Bourquin: Just a minute. Is the reason pertinent? We object to that.

Mr. Scampini: I will withdraw the question.

Q. What did you observe when you came back on the 24th?

A. On the 24th they were drilling ahead at 4910 feet at the time I was there.

Q. What did you notice?

A. Well, the mud was in good shape. The weight was 114, 113 pounds. The viscosity was relatively high, and the salinity at the time was about 425 grains of sodium chloride per gallon.

Q. What is sodium chloride? Common salt?

A. Common salt, yes. [385]

Q. What is four hundred and how many grains, did you say?
A. 425.

Q. What is 425 grains of common salt in the formation indicative of in the course of drilling a well?

A. Salt water sand.

Q. Is that an unusually high salt content?

A. That is not as high as the salinities can go in this territory in the region of Rio Vista and this immediate area.

(Testimony of E. L. Mohr, Jr.)

Q. Were you able to get control of that salt sand by your processes?

A. The salinities of this mud was carried from the time that I had originally arrived at the well on October 31st, and we had succeeded in lowering that salinity by dilution from that point. The salt water sand evidently was in the immediate region of the window in the pipe.

Q. And by building up the mud were you able to get control over the salt water sand?

A. Yes, the salt water sand was controlled at a weight of around 99 pounds, considerably lower than the final weight of the mud.

Q. Describe what you observed and what you did after you arrived back on the well on November 24th.

A. On November 24th it was virtually just a routine check-up, to check the condition of the mud and see that it was in good shape, and to make any recommendations necessary to control.

Q. Did you find anything unusual about it?

A. Not at that time. The mud was in good shape.

Q. Was drilling progressing normally?

A. Yes, it was. [386]

Q. Then what did you do next, or what did you observe next, say, on the 25th?

A. Well, on the 25th I was notified that they had stuck the pipe. I think it was the 25th or 26th.

Q. Then what happened?

A. Well, I came over to the well on the 28th of November. It was impossible for me to come on the

(Testimony of E. L. Mohr, Jr.)

25th. I came to Faria No. 1 on the 28th of November, and they were stuck, and they had spotted a small amount of oil in order to free the pipe. However, circulation was excellent at the time. There wasn't any build-up of pump pressure or anything else indicating that the hole was caving, and so they had spotted oil in order to free the pipe.

I made a routine check at the time and found that the condition of the mud, as far as the preceding test was concerned, was comparable or even a little better.

Q. Then on the 29th what happened?

A. The well blew out on the 29th of November.

Q. Were you present at the time the well blew out?

A. When the well started to blow I was in Pittsburgh at the time having lunch. I had no way of knowing that it was blowing out, but I came back to the well during approximately the last half hour of the blow-out.

Q. What did you observe?

A. Well, it was a rather strong blow, and I took a check on the mud at the time, to see whether there was any salt water present in the gas blow, in order to prove in my own mind anyway or for anybody else's [387] information that it was a dry gas sand; in other words, if it had been a soft water connection with the gas sand, there would have been an increase in salinity.

Q. What did you find in respect to whether or not the gas was a dry gas or a wet gas?

(Testimony of E. L. Mohr, Jr.)

A. The salinities were lower than they were on the 24th of November.

Q. What does that mean to you?

A. Well, it indicated that there wasn't any water coming into the hole at all; in other words, the hydrostatic head, even with the well blowing out, was sufficient to control the upper salt water sand.

Q. To what weight was the mud built up before the well came under control?

A. To 116 pounds.

Q. What does that reflect in pounds of pressure at the bottom of the well?

A. I will have to figure that out. Do you mind? Do you mean the hydrostatic head?

Q. The hydrostatic head.

A. Very close to 4000 pounds hydrostatic head.

Q. For the benefit of us laymen what does that mean in the oil business?

A. Do you mean 4000 pounds hydrostatic head?

Q. Yes, at that depth.

A. Well, the mud is exerting a pressure of 4000 pounds per square inch against the formation walls at that point.

Q. How long did you remain on the property of Cal Bay after the blow-out?

A. Well, I was there all day of the 29th. In other words, until we had killed the well and brought it [388] under control.

Q. What do you mean by killing the well?

(Testimony of E. L. Mohr, Jr.)

A. Well, raising the weight to a point where the gas no longer blows—in other words, the well has subsided to a quiet point.

Q. After that was done, did you notice whether or not you still had circulation in that well?

A. Yes, we had complete circulation at all times during the blow-out.

Q. What is Baroid?

A. Baroid is varieties of barium sulphate. It is material of a very high specific gravity.

Q. You say you pour that into the mud?

A. Yes, it is strictly a weight material used to raise the weight of mud very quickly.

Mr. Scampini: At this time, may it please the court, I offer in evidence as our exhibit next in order photostatic copies that I have already delivered to counsel on the other side of the notes and memoranda made by Mr. Mohr in respect to his work on this well.

The Court: Is there any need of doing that? He has testified concerning them.

Mr. Scampini: There is no objection, counsel?

Mr. Bourquin: I do not want to crowd your Honor's efforts to expedite this matter, but in answer to the question we have no objection to those reports.

Mr. Scampini: You may take the witness now, Counsel.

(The reports in question were thereupon received in evidence [389] and marked Defendants' Exhibit 26.)

(Testimony of E. L. Mohr, Jr.)

Cross-Examination

By Mr. Bourquin:

Q. Mr. Mohr, you have been with the Baroid people how long, did you say? A. Since 1941.

Q. Their business is the supply and service of the product to the people engaged in drilling operations; that is correct, is it? A. That is right.

Q. You sell them the product, is that correct?

A. Yes.

Q. Do you charge them additionally for the service, or does that go along with the product?

A. That is free. The service is entirely free.

Q. In other words, the business of the company is the sale of its materials, among which was this chemical that you mentioned or weighted material—Baroid was one—those are sold, and just like the gasoline service station, they give a service along with it if it is asked for, is that it?

A. That is correct.

Q. No charge made for the service?

A. None at all.

Q. No charge made against the driller, the drilling company, for your time?

A. No, that is right.

Q. In that respect you are both salesman and service man?

A. Technically, yes. However, we do not go under the term of salesman.

Q. That is right. You are known as—what did you call it? A. Service engineer. [390]

(Testimony of E. L. Mohr, Jr.)

Q. What is your particular line of engineering? Anything other than this Baroid product?

A. Well, this mud work; mud engineering, as they call it, is a branch of petroleum engineering.

Q. Mud engineering is a branch of petroleum engineering? A. Yes.

Q. Are you a petroleum engineer?

A. No, I am not a graduate petroleum engineer.

Q. Had you had training before your work with the Baroid people in any engineering?

A. In civil engineering or any type of engineering?

Q. Yes, any time.

A. No, I took several mathematics courses in high school and junior college.

Q. But you did not go out and take an engineering course? A. No.

Q. So that you learned the business of Baroid, as I take it, while you were with the company, is that correct?

A. No, I had worked for several years before going to work for Baroid in the fields, themselves; so it was an accumulation of information over a period of several years, not necessarily while I was working for Baroid.

Q. You had worked around wells, drilling?

A. Yes.

Q. As a what? What do they call it?

A. As a roughneck, rotary helper is the formal title.

(Testimony of E. L. Mohr, Jr.)

Q. Mr. Mohr, when you go to a well to service, you test their [391] fluid, their mud, as it is called, do you? A. That is right.

Q. You have indicated you made several tests on your visits? A. Yes.

Q. You make your recommendations?

A. That is right.

Q. Do you do the physical work yourself, of carrying out the recommendations, or do you leave that to those engaged in the operation?

A. That is left to those engaged in the operation. I make the recommendations. I do not do the physical work connected with it.

Q. May I say this: You make your recommendation and leave it to them to carry it out?

A. Yes, and then I come back to check and see if it is carried out. You understand we have no way of forcing these people to carry out our recommendations.

Q. That is what I want to bring out; in other words, you do not assert any authority about that?

A. No.

Q. You have been in court here today. Were you here before today? A. No.

Q. You heard us talking here about blow-outs?

A. Yes.

Q. Have you witnessed any blow-outs before?

A. Yes.

Q. Many of them, or few of them?

A. Well, very few of them, because mud control is such now that you very seldom see blowouts, be-

(Testimony of E. L. Mohr, Jr.)

cause they are controlled to the point where they are an exception.

Q. In other words, so that that may be understood, it is the very purpose of the Baroid service and products to bring something [392] to the drilling fluid that will enable the drillers to avoid blow-outs, isn't it?

A. Well, that is the purpose of Baroid. However, it is not necessary to use that material in order to prevent blow-outs. It is knowledge of the territory that you are in which enables you to follow mud control to a point where you prevent any trouble of that sort.

Q. I suppose initially they used water for drilling fluid?

A. That is the basis of all aqueous drilling fluids.

Q. That is correct, isn't it? Initially they used water?

A. That is right.

Q. These mixtures or chemicals, such as your service company sells, are of more recent origin, aren't they?

A. Yes, it is a relatively new field in drilling.

Q. And they are designed to enable the drillers to avoid the blow-out, aren't they?

A. Well, when you drill a well you do not anticipate a blow-out. You have no way of telling. You are drilling right in the middle of any area in California, and if you do not know the territory it is possible to have a blow-out. The whole system of mud control is to anticipate them and to make hole without any mechanical trouble.

(Testimony of E. L. Mohr, Jr.)

Q. Your company publishes literature on the subject, doesn't it? A. Yes, frequently.

Q. Are you familiar with the literature of the company? I suppose you are.

A. Yes, I have read it.

Q. Have you with you any material from the pamphlet published [393] in May, 1941, by the Baroid Sales Division, termed "Drilling Mud?"

A. Do I have that particular article with me? Is that your question?

Q. Yes. A. No.

Q. Are you familiar with it?

A. Yes, I have read it.

Q. I suppose it was the basis of study with you in order to carry out the service of the company, wasn't it?

A. No, not necessarily. We are familiar with all those particular problems anyway.

Q. I am looking at the first page of it, reading from a passage appearing under "The Development, Functions and Use of Drilling Muds." Quotation No. 5:

"In the early days of rotary drillings blow-outs were extremely common."

A. That is right.

Q. "The invention of muds containing weighty materials is one of the most important single developments in the history of rotary drilling, as it enabled wells to be drilled in high-pressure areas with complete safety." That is right, isn't it?

A. That is right.

(Testimony of E. L. Mohr, Jr.)

Q. Safety from what?

A. Well, in a high-pressure area, safety would naturally mean high pressures.

Q. Safety for what? What are you trying to avoid?

A. In a high-pressure area?

Q. Yes.

A. You would be trying to avoid two things, either gas or salt water pressure. [394]

Q. Aren't you trying to avoid blow-outs?

A. Well, yes, naturally.

Q. Do you know the principal cause of blow-outs or for blow-outs?

A. What the principal cause is? Leading up to a blow-out?

Q. Producing one. That is my question.

A. Well, if the hydrostatic head of the column is not equal to or above the formation pressure, naturally you would expect a blow-out.

Q. Let us get to that slowly: Don't you know and doesn't your company disseminate the information that the principal cause for a blow-out is inadequate weighting and improper consistency of the mud?

A. That is not the basic cause of a blow-out. If the hydrostatic head of a column is insufficient to control the formation pressure, naturally the formation pressure is going to overbalance the hydrostatic head—in other words, it will blow out.

Q. What does the consistency of the mud have to do with a drilling operation?

(Testimony of E. L. Mohr, Jr.)

A. Consistency? Well, that will give you the body of your mud. In other words, you have to have a certain type of body to your mud to enable you to carry cuttings from the bottom of the hole to the surface, plus the fact that the consistency also involves the weight of your drilling fluid.

Q. Is that the only function of maintaining a proper consistency, to carry up the cuttings?

A. No, the whole system of [395] your rotary mud—it has a variety of functions, all combined into one basic mud—in other words, you lubricate your bit, you keep your tools cool, you transport your cuttings from the bottom of the hole to the surface, and you also have the sufficient weight to prevent any blow-outs.

Q. With respect to this weighting that you spoke of, how do you determine the weight of the column of mud? A. How do you determine it?

Q. Yes.

A. You weigh it on a regular balance; in other words, you have a scale.

Q. In these tests that you made of this well, did you weigh it, yourself? A. Yes, I did.

Q. Where did you weigh it out? At the pit, or did you weigh it coming out of the hole?

A. We weigh it usually at the flow pipe—in other words, coming out of the hole.

Q. Would that be coming out of the hole?

A. That is right.

Q. I want to look at this log one minute on that subject. [396]

(Testimony of E. L. Mohr, Jr.)

Mr. Bourquin: May I look at this log a moment? I will look at that, your Honor, when I have the opportunity, without taking the Court's time.

Q. Is the consistency of the mud introduced into the hole as mixture constantly changing?

A. Not necessarily. That is the whole function of drilling mud control, is to prevent consistency from rapidly changing.

Q. What happens to it when it encounters the clay in the formation?

A. Well, usually you can make mud if you have what they call high filter loss, the loss of the fluids in a formation; the loss of the fluids in a formation can cause the shale to go through the clay and become mixed in, thereby converting it into the drilling fluid.

Q. Let's go to that. What would happen to the consistency if the mud is lost by filtration into the formation?

A. In other words, your weight will rise as you lose the water which is the lightest of the ingredients. Your weight should come up.

Q. As you lose it, it would make your weight go up?

A. Yes.

Q. Because of the presence of water?

A. Because of the presence of what?

Q. You mean because of the presence of active materials in the mixture?

A. Yes. Your water is your lightest ingredient.

Q. If the water is lost into the walls you may expect the weight of the fluid at that place by the loss to go up? [397]

(Testimony of E. L. Mohr, Jr.)

A. It is not as immediate a change as that. It is a very slow change. They drill and then adding chemicals, and so forth, to the mud, you try to balance that loss of fluid in any formation. The consistency of your mud does not change so rapidly that you could go out and chop off a place and say, "116 here" and "110 over there."

Q. You say the water would—you say irrespective of the rate of loss the water would tend to increase weight?

A. That is correct.

Q. What would the clay in the formation being drilled, what tendency or effect would that produce in the mud?

A. A loss of fluid in your formation.

Q. No. The clay in the formation being drilled, you are cutting a formation, you are picking out clay. What is the effect of that in your mud?

A. Partly it is good and it will depend upon the water. If you are drilling in a formation at a point where you are making considerable mud, why, the mixture of any clay or shale that you are drilling through, which you are mixing, is just as good or better, possibly a little better than the original mixture.

Q. You are saying in other words, if you are drilling in spots where it is picking up mud and shale that is going into your mixture?

A. Yes.

Q. But what effect on your mixture?

A. With no effect, usually. [398]

(Testimony of E. L. Mohr, Jr.)

Q. What effect with reference to viscosity?

A. Well, the increase of solids bring that up.

Q. What effect on the mud would be the inclusion of shale and clay from the formation being drilled?

A. What effect?

Q. What effect would that have on the viscosity?

A. That could be answered two ways. If you are previously weighting your mud very heavily with chemicals, in other words, disbursing agents, and had been carrying a considerable quantity of such chemicals in your mud and you went through a bentonite formation, a clay formation, the viscosity of your mud should go down, because you are adding fluid material with a mixture of some type that you are buying. In other words, you are adding fluid material to your mud so your viscosity should go down.

The Court: Can't we move along? Is the answer that the viscosity would go down?

The Witness: It may go down or up.

Mr. Bourquin: What is viscosity?

A. That is the fluid movement of your mud.

Q. Well, with more viscosity it is more gummy?

A. Yes, it is thicker.

Q. It would travel slower through the same opening?

A. Yes.

Q. What effect upon the mud would be the inclusion of gas from the formation?

A. The entry of gas into the drilling mud would cause it to flocculate, make it look like whipped [399] cream, the same idea is whipped cream: it has small bubbles which flocculate.

(Testimony of E. L. Mohr, Jr.)

Q. With what effect on the viscosity?

A. Then your viscosity will go up.

Q. What effect upon the inclusion of the mud will a stream of salt water have?

A. Salt water has a very definite effect upon it. In other words, it flocculates the clay particles, it makes them come together.

Q. It makes the clay particles stick together?

A. Yes.

Q. Will that thereafter mean loss of weighting material?

A. No, that does not necessarily mean that you are going to drop any material that you have in your mud. All mud is flocculent at all times, regardless of viscosity or any other characteristic that you have.

Q. Salt water is an electrolyte? A. Yes.

Q. Would that salt water tend to settle out the salt in the liquid?

A. Not unless you have a terrific amount of salt water.

Q. Not unless you had enough to do it? Let's look back a minute. You did say that incorporation of the clays and gases in there would tend to increase the viscosity and the flocculation of it.

A. Yes.

Q. In doing that it would expand the volume of the fluid?

A. That is a question that may be argued at great length.

Q. Well, tell us——(400]

(Testimony of E. L. Mohr, Jr.)

A. When that mud is in the hole, the bubbles are compressed to a point where the increase of volume in the hole is negligible, you never see it.

Q. Take a hole 5,000 feet? A. Yes.

Q. That is about where they were here when they had the blowout? A. Yes.

Q. How many atmospheres is there in that, how far down are you, how many multiplications would we be on atmospheric pressure at the surface in the bottom of that hole?

A. You don't have any multiplication of the atmospheric pressure, because you are below sea level.

Mr. Scampini: May it please the Court, I desire to object to any further examination along this line. It is getting us nowhere. It is not material to the issues of the case. It does not test the knowledge of the witness and it hasn't anything to do with the examination that I conducted of the witness. When we are delaying the trial, I think it will be conceded that this is a very extraordinary delay.

Mr. Bourquin: This witness testified that over a time of some few weeks he made successive visits and made tests of this mud on occasion he has said he found this mud in good condition. We want to test his knowledge.

The Court: I think it is a material aspect of the case, but the witness' answers are so long. Maybe we'd better take a recess. Please bear in mind the admonition of the [401] Court, ladies and gentlemen.

(Recess)

(Testimony of E. L. Mohr, Jr.)

Q. (By Mr. Bourquin): Mr. Mohr, just returning once to the subject of loss of water in fluids by infiltration, would that tend, with such loss, would that tend to make it more viscous? A. Yes.

Q. Naturally, if you drop it out it will become more viscous? A. Yes.

Q. On this subject of salt water, for a minute. You are familiar with the Baroid Sales publication of 1943, are you? A. With what articles?

Q. To the article of your Baroid Sales Division——

Mr. Scampini: I request that Counsel show the articles to the witness.

Mr. Bourquin: Mud-making materials. Let me ask you if under the heading, "Proper Use of Salt-Resistant Mud-Making Materials", your company does not disseminate this information on page 402:

"Salt or salt water tends to flocculate all ordinary drilling muds, with the result that the colloidal material is no longer colloidal and settles out of the fluid column around the bit?"

Q. Is that correct?

A. That would be correct if it had gone to an extreme point of flocculation.

Q. What does that mean, "settles out of the fluid column [402] around the bit"?

A. That is just—it is impossible to tell if the colloidal material which would be no longer colloidal material settles out around the bit. I know of no case in California where that has happened.

(Testimony of E. L. Mohr, Jr.)

Q. What does it mean, the fluid column settles out around the bit; does that mean the gathering of the weight material around the bit so they collect and form a bridge at the bit ? A. Yes.

Q. Also we have this same pamphlet, and if you desire to see it, I will hand it to you, on the question of accumulation of clay and the formation that you said the result would be to tend to increase viscosity and you said Chemicals are designed to treat that condition ? A. Yes.

Q. Does your company on that subject in its 1943 pamphlet disseminate this information at page 405:

“Most chemicals used to treat mud will reduce viscosity and gel strength to some extent at first, but the results are not always enduring. On the contrary, some of them actually thicken the mud after a short time and thus increase the danger of sticking the bit, gas cutting and blowout.”

Is that the view of your company on the subject and is that correct ?

A. Well, yes, that would be correct, but that is a point that you continually try to overcome.

Q. That is something you are continually trying to avoid ? [403] A. Yes.

Q. And that would be that you establish your safety measure and your safety factors, do you ?

A. Yes.

(Testimony of E. L. Mohr, Jr.)

Q. Let me return to the pamphlet that was published in May, 1941, that I referred to over there, and the first page thereof, again:

“The safety factor of the fluid column may be lost by encountering increased differential pressure in the formation, or by the fluid column becoming filled with gas bubbles, thereby decreasing the unit weight of the mud and consequently reducing the fluid head exerted by the mud column, initially only at the top of the column, but proceeding downward as mud leaves the hole by ‘geyser’ action.”

Is that the view of your company and is that correct?

A. Yes, that would be correct.

Q. The safety factor is, 1, designed to avoid that, isn't it?

A. Yes.

Q. And is one designed, 2, to avoid the trouble arising from the fluids becoming filled with gas bubbles and thereby decreasing the unit weight and producing a “geyser” action at the top of the hole, isn't it?

A. Yes.

Q. What do you mean by “geyser action”?

A. A geyser action?

Q. Yes.

A. Well, when the mud travels by its own—when the mud will travel without—well, in other words like [404] it flows by itself.

Q. Did you ever see a geyser, not a blowout, but a natural geyser?

A. Small one, yes.

(Testimony of E. L. Mohr, Jr.)

Q. You know how they operate, they will erupt like Old Faithful in one tall stream and settle down and after a few minutes it will take another shot and it will continue that during the time of the blowout?

Mr. Scampini: May I inquire if Counsel means to infer a geyser operation on the same principle as a gas well where the force is exerted by steam and not gas?

Mr. Bourquin: I am asking the witness.

The Court: You asked a question, whether the witness saw a geyser. Let's get on from there.

Mr. Bourquin: All right.

Q. Now, Mr. Mohr, will you take these mud reports that you made. I will hand them to you. Let me have them, please, Mr. Clerk. And will you also take this log of the well? While I ask you some questions explaining your report—your first report that you produced here was a report dated what day?

A. My first report was October 31, 1944.

Q. October 31. On that report you made a record of the mud weight, did you? A. Yes.

Q. The viscosity also? A. Yes.

Q. And you noted that the mud was salt mud 500 grains and you recommended an addition of water and to weight up and gun the [405] mud thoroughly— A. Correct.

Q. Will you look at the log? Let's go further. When was your next report? A. November 1.

(Testimony of E. L. Mohr, Jr.)

Q. November 1. I read certain of the contents of that already. What was next, November 3?

A. Yes.

Q. Then you found and recorded a high salinity?

A. Yes.

Q. What does that mean, high salt?

A. Yes, the salinity in the filtrate of the mud had increased.

Q. You recommended increase in weight, you recorded the hole was sluffing? A. Yes.

Q. That means the walls were breaking in in the hole?

A. Yes, the shale was running in.

Q. Was running in and was finding its way into the mud stream, is that correct? A. Yes.

Q. That is where you found the shale, was in the mud stream?

A. I found it up there. I could see where the shale was coming out. We were having trouble and trying to get the bit through down into the hole while they were cleaning out.

Q. You found the shale in the mud stream?

A. Yes, it was coming out.

Q. You could not see it anywhere else, could you? A. That's right. [406]

Q. You tested the mud weight then?

A. Yes.

Q. What did you find it to be?

A. 99 pounds on the 3rd of November.

Q. What was your recommendation with respect to weight? A. 105 pounds.

(Testimony of E. L. Mohr, Jr.)

Q. Will you examine that log for the days November 3rd and November 4th and tell us if the recommendations were carried out? You have two years there, Mr. Mohr. Get 1944.

A. Yes, I see that.

Q. I think you will find it further back. Have you got November 3rd?

Q. Please tell us what the log shows were the mud weights on the the three shifts on November 3rd when you recommended 105 pounds?

A. 97 pounds morning tour; 98 pounds on daylight, and 97 on afternoon tour.

Q. 97 in the morning, 98 at mid-day and back to 97 at night, is that right?

A. That is right.

Q. Look at November 4th and see what they did with respect to that recommendation.

A. There is a notation here on daylight, "Hauling Baroid up to rigging and mixing same."

Q. How about the graveyard shift on November 4th? What does that show, the first shift?

A. It says, "Cleaning out."

Q. No mud weight?

A. 96 pounds.

Q. Any mud weight recorded on the day shift on November 4th?

A. None at all. [407]

Q. On the night of November 4th how close were they coming to your 105?

A. 98 pounds.

Q. If you will just put your log there, I want to ask you about some of your further reports. Will you look at your report for November 17th? Have you that one?

A. Yes.

(Testimony of E. L. Mohr, Jr.)

Q. On that report you make the recommendation as follows:

“When you gun the pit mud on one side has not been touched.”

Is that your entry?

A. Yes, that is right.

Q. In other words, you found that day that the mud on one side of the pit was not being touched, not being mixed, is that right?

A. No, that is not right because——

Q. What does it mean?

A. The pumps were set side by side on a very large suction pit. Where the mud flowed off the shaker into the suction pit was directly across from one pump that they were using to circulate with. Naturally, the mud won't make a circle around the edge of the pit. It will go straight across to the suction of the pump which is pumping the mud up. That entry means this mud on the other side was not moving into the pump.

Q. It was not moving?

A. That is right.

Q. It was standing quiescent in the pit, is that correct?

A. Yes, more or less.

Q. This gunning that you talk about is merely a nozzle to shoot some of the same stream into that pit and keep it roiled [408] up, isn't that right?

A. Yes, that is right, agitated.

Q. If the mud is allowed to stand still what happens to it?

A. Nothing.

Q. What?

(Testimony of E. L. Mohr, Jr.)

A. Nothing, not for a short period of time, no.

Q. What do you mean by a short period of time?

A. Well, if you let it sit for several weeks, then you would have a terrific picking, but on a short space of say eight or ten hours or two days there would be little effect on the mud.

Q. It would have very little effect on the mud?

A. That is right.

Q. What purpose does the movement of the mud serve?

A. In this case the movement of the mud was to aerate any gas they picked up while they were cleaning out, aerating it out on the surface of the hole in order to add a heavier weight column of mud going down without adding any further material.

Q. Look at your report on November 20th, in which you tell them there to be careful going through bridges; is that correct?

A. Yes, it says, "Be careful of going through all bridges."

Q. What bridges? A. What bridges?

Q. What are bridges?

A. That is when a small amount of shale lodges itself in the hole. In other words, the bit will take a small amount of material at that certain point where the hole is supposed to be clean.

Q. At that point the raising of the bit will encounter a washer, a bridge-like inside the hole, won't it?

A. No. [409]

Q. What is the bridge, then?

(Testimony of E. L. Mohr, Jr.)

A. A bridge is any obstruction that occurs in your hole when the hole has been drilled below a certain depth; then you have an obstruction in the hole probably from shale sloughing in. If slough fills in the hole it creates a bridge. It is a gap across a chasm.

Q. It spreads the interior of the whole?

The Court: You do not mean a gap across; you mean there is a substance that goes across?

A. That is correct.

The Court: That is what counsel asked you.

Q. (By Mr. Bourquin): Read the rest of that. Why did you tell him to be careful going through the bridges?

A. Because when you have a bridge you assume you have a shut-off from that point up, and if there is any gas or salt water below, then it will back up against that bridge. If the hydrostatic head is insufficient to hold the formation pressure below that bridge, then the gas or salt water or oil pressure, whatever you have, will tend to give you a light spot under any bridge.

Q. Read your recommendation as to that, as you made it at that time.

A. "Be careful going through all bridges as light gas cut mud and salt water will be below them." The loss of weights illustrate this very well.

Q. What was the viscosity test on that date?

A. 50 seconds A.P.I.

Q. That is the rate that that mud would flow through a given aperture, as you testified?

A. That is correct. [410]

(Testimony of E. L. Mohr, Jr.)

Q. What did you recommend on that date as to viscosity? More viscosity or less? A. Less.

Q. What did you recommend?

A. I recommended a viscosity near 35 seconds.

Q. They had what? A. 50.

Q. And you recommended that they put that right down to 35, did you? A. Yes.

Q. Will you take a look at the log on November 20th and let us see what they did about that recommendation? What viscosity did they have in the mud stream on November 20th on the three shifts on that day?

A. One viscosity on the morning tour was 43 seconds, daylight 50 seconds, and on the afternoon tour was 50 seconds.

Q. Turn to the 24th and let us see how close they come to your recommendation to put it down to 35. How about November 21st? What is the viscosity on the log there?

A. 55, 60 and 50.

Q. The first shift on that date there is no record of, at all? A. That is right.

Q. The day shift shows what?

A. 55 seconds.

Q. 55 even? A. Yes, and 60.

Q. 55 and 60. They raised your initial test on the day before, hadn't they?

A. The crews as a whole have nothing to do with——

Q. Please answer the question, Mr. Mohr. They had raised your test of the day before? [411]

(Testimony of E. L. Mohr, Jr.)

The Court: Well, of course, the answer is self-evident.

Mr. Bourquin: Yes, it is.

Q. What was the viscosity they had on the third shift on November 21st? A. 50 seconds.

Q. Turn to November 22nd and see if they paid any attention to viscosity at all. What entries are there?

A. Well, on morning tour evidently they were shut down waiting water—no steam—so they couldn't do anything at that time.

Q. How about the day shift?

A. Evidently they were shut down at that time, too.

Q. Not circulating? A. No.

Q. How about the third shift that day?

A. I would say that they were not doing much circulating at all on the afternoon shift.

Q. Any viscosity entry there?

A. Well, if there is no circulation there is no viscosity.

Q. Is there any?

A. There is no viscosity recorded here.

Q. No viscosity entered and no circulation entered? A. No.

Q. Please turn to the succeeding days of the 24th and the 25th and tell us what viscosity they maintained in that drilling fluid.

A. There is no viscosities marked on the log, at all.

(Testimony of E. L. Mohr, Jr.)

Q. On the 23rd?

A. Yes, they are, too. I beg your pardon.

Q. Will you please read them by tour, please?

A. Morning tour 60 seconds. [412]

Q. Mid-day how much? A. 84.

Q. 84, is that right? A. That is right.

Q. Night shift? A. 50 seconds.

Q. How about the 24th?

A. Morning tour was 65, daylight was 80.

Q. 80? A. Yes.

Q. Night shift? A. Was 75.

Q. How about the 25th?

A. The viscosity of 85 posted for morning tour, no viscosity on the day light because they had the well shut in, and on the afternoon tour 90 seconds.

Q. 90 seconds what?

A. 90 seconds viscosity.

Q. Is it a clear entry of 90 seconds, or 90 seconds plus?

A. 90 seconds plus on the night tour on the 25th.

Q. 90 seconds plus on the night tour of the 25th, and your recommendation had been 35.

Mr. Scampini: May it please your Honor, I think counsel is forgetting that there are recommendations in between the last one he has read and the present time.

Mr. Bourquin: I have not seen recommendations of viscosity. I will read another one now.

Mr. Scampini: November 24th.

(Testimony of E. L. Mohr, Jr.)

Q. (By Mr. Bourquin): Will you look at your mud report of November 24th and read us your recommendation for that day?

A. It says, "Viscosity is high. Chemicals have no effect because flocculation of clay is such that it cannot be dispersed now. Water alone is best for it, for it *recudes* [413] salt content and lowers percentage of clay salts. You can stand one and one-half feet of water in the pit now. Wet this up."

Q. In other words, on November 24th when you tested their mud stream or fluid you found the mud in such a condition that the chemicals had then lost all effect, didn't you?

A. Well, yes to that question, but chemicals had little effect on this entire system from the beginning.

Q. You found the viscosity high. How high did you find the viscosity in your test?

A. I showed it at 60 plus.

Q. Where did you test it at?

A. I tested it at the flow line.

Q. Your report is what date?

A. November 24th.

Q. That is the date the log entries show the operators there had recorded the viscosities of 65, 80 and 75, didn't it? A. On the 25th or 24th?

Q. The 24th—65, 80 and 75?

A. That is correct.

Q. Returning to your report on that date, you then recommended to them that water alone would do it any good, didn't you?

A. That is right.

(Testimony of E. L. Mohr, Jr.)

Q. You are the man who sells chemicals?

A. No, we deal very little in chemicals.

Q. You are the people who sell the compounds—
Baroid?

A. Baroid, yes, but that is not a chemical.

Q. What else did you sell them?

A. That is all, just Baroid. [414]

Q. Only Baroid. You told them, then, that they
could stand a foot and a half of water in the pit?

A. That is right.

Q. You recommended the use of water. While
you are on the subject of that log and the subject
of mud weights, will you turn to the log for the date
the blow-out occurred, November 29th? Does the log
show the mud weight recorded by the operators on
the log that day? A. Yes.

Q. What mud weight?

A. It shows 110 pounds.

Q. Does it show whether that was weighed com-
ing out of the hole or weighed in the pit?

A. I would say coming out, because it says
“Pumped in pit of 113 pound mud.”

Q. Let me ask you if you can agree with me
as to this entry. This is the 29th.

Mr. Scampini: I think he has agreed with you
as to all entries so far, counsel.

Mr. Bourquin: Thank you.

Q. On the day shift, the second tour, as they
call it here, it records, “Well blew out at eleven
o’clock a.m. Pumped in pit of 113 pound mud.
Mix 75 sacks of clay.”

(Testimony of E. L. Mohr, Jr.)

Did you sell that? A. No.

Q. "320 sacks of Baroid." You sold that?

A. Yes.

Q. "Plus 1½ feet of water in the pit." Is that correct? A. That is correct.

Q. "Mud weight 110 pounds." Immediately above the notation, "Mud weight" are the words, "In pit," aren't they? [415]

A. It is on there, yes.

Q. The log indicates that their weight of 110 is the weight they found in the pit, doesn't it?

A. That is right. It probably comes from the fact that the gas-cut mud was going into the pit; consequently, the weight of the mud in the pit was cut to 110 pounds, too.

Q. The gas-cut mud would go into the pit; that is true? A. That is right.

Q. The gas coming out of the hole, the fluid would carry the gas into the pit?

A. That is right.

Q. The pit was at the same time the place and the only place where the mud was replenished and re-treated to overcome those deficiencies, wasn't it?

A. Yes.

Q. That is where you made the new mud, wasn't it, in the pit? A. Yes.

Q. Have you any report made between November 24th and November 29th?

A. No. There is a combination of reports on the 28th and 29th.

(Testimony of E. L. Mohr, Jr.)

Q. May I look at that just a moment? I will give it back. You made a report on the 29th on the forms of Baroid Sales dated November 28th-29th; that is correct, isn't it?

A. That is right.

Q. You record on that report a weight of mud 116 pounds. Which day would you tell us you weighed the mud at 116 pounds?

A. That was on the 29th when we killed the well. There is a [416] notation below that we killed the well with 116-pound mud.

Q. In other words, the only mud weight you had on that report was the mud that you made to kill the well?

A. That is right, after the mud was conditioned.

Q. From November 24th until after the blow-out you had no track of the mud weight, that is correct, isn't it?

A. That is right.

Q. Are those all the reports that you made to these people, Mr. Mohr?

A. That is right.

Q. Are those all the recommendations, those that are written into the form on the bottom of those reports that you made to them?

A. That is right.

Q. Did you give them any more detail at any time on the reports?

A. Not on the reports. The usual procedure is to write down a few simple recommendations on the log and then talk to the tool clerk and give him further details as to what you know, several ideas of what he can do to help himself.

(Testimony of E. L. Mohr, Jr.)

Q. When you say write on the log, do you mean the log here in evidence?

A. No, I don't mean on the log. I mean on my report. I do not write on the log. That is not my business at all. I never make an entry on the log.

Q. Did you give the Cal Bay people, or anyone there in connection with the operation, any other communications of your recommendations or tests other than the reports that you have here on the form sheets of the Baroid Company?

A. When I write [417] these reports and I check the muds, the tool pusher is usually in attendance at all times, and we discuss the condition of the mud, and what particular type of——

The Court: He wants to know if you wrote out anything.

The Witness: No, nothing except what is on these reports.

Mr. Bourquin: Those reports that you have before you in evidence? A. That is right.

Q. Didn't you make a written report to these people and recommendation on November 21st, telling them you wanted to get away for Thanksgiving? A. On the 21st?

Q. Yes.

A. Just a moment. I have no record of a report for the 21st in my book.

Q. Did you make them any written report or recommendation telling them that you wanted to get away for Thanksgiving and telling them what to do with that mud?

(Testimony of E. L. Mohr, Jr.)

A. I have no record of it here.

Q. Do you remember when Thanksgiving was that year, Mr. Mohr? A. 1944?

Q. Yes, if you have any independent recollection of your activity.

A. I would imagine around the 23rd of November.

Q. On the 21st didn't you give in writing your advice or your expression in a report you signed as an engineer for the Baroid Company, "Keep this damned thing out of trouble over Thanksgiving. I am going home for dinner?"

Mr. Scampini: If it please the court, a report has been [418] made in writing. The writing will speak for itself, and if counsel has such a report he should exhibit it to the witness.

Mr. Bourquin: I want you to produce it. I will ask you now to produce a report that this witness made to that effect on November 21, 1944, and delivered to those in charge over there.

Mr. Scampini: All I can say is I haven't the report. I haven't seen it. And if counsel has a photostat in his possession, or a copy, we shall be glad to look at it.

Mr. Bourquin: I have a photostat but I think it is only a copy of that report, your Honor, that I am talking about. I am not prepared to show that this is the report the man made. I want the witness' answer to the question.

The Court: The witness answered.

Mr. Bourquin: I missed it.

(Testimony of E. L. Mohr, Jr.)

The Court: He said, "Yes," I thought.

Mr. Scampini: It is my impression that the report in your possession is the report of the Naval officer you had stationed there.

The Court: Mr. Scampini, just a moment. I may be in error, but I thought the witness answered the question.

(Record read.)

Mr. Scampini: It is not proper impeachment, your Honor. The witness has not been shown the document yet. How can he be asked if he wrote the report? [419]

The Court: He has asked him if he wrote the document. You say you haven't got it. He is asking for secondary evidence. There is nothing improper about that.

Mr. Bourquin: Will you read the question, Mr. Sweeney?

(Question read.)

A. Well, I have no report of that type in my book, here.

The Court: He asked you whether you did it, or not.

A. Well, I may have. I will say that. If it is in my handwriting I will certainly——

Q. (By Mr. Bourquin): I am not prepared to show you a writing. I want to know if you made that.

A. I remember telling them I was going home for Thanksgiving.

(Testimony of E. L. Mohr, Jr.)

Q. In writing?

A. Well, I don't remember making a report for that day. I was there on the 20th, but I have no indication at all of a report on the 21st.

The Court: I think what counsel is asking you about is when you went away before Thanksgiving did you give a paper to the well driller in which you said, "Keep this thing in order. I am going home for dinner?" That is what he is asking you about. Did you give such a paper to the driller?

The Witness: Yes.

Q. (By Mr. Bourquin): Did you at that time, for whatever weight it may be entitled to, describe the thing as "the damned thing"—"Keep this damned thing out of trouble?" A. Yes.

Mr. Scampini: May it please the court, counsel has asked [420] the witness a question as to whether the document in writing was submitted by him. The answer is "Yes." If counsel now has a copy of that document I think we are entitled to use it as secondary evidence. I ask that it be produced and shown to counsel and the witness.

The Court: If counsel has it the court will order him to produce it. I take it he must have gotten information about it from some source. It may not have been from the document, itself.

Mr. Bourquin: I did not get it from the document, itself, your Honor. I only have here the memorandum of the observation of another individual from the document made at the time, as I understand it.

(Testimony of E. L. Mohr, Jr.)

The Court: Have you the document? [421]

Mr. Bourquin: No, I have not.

The Court: Counsel says he hasn't got it.

Mr. Scampini: I haven't got it. I never saw it.

The Court: The court rules the secondary evidence of its contents is proper.

Mr. Bourquin: The witness says he gave it to them. They ought to have it.

The Court: I will allow the answer to stand.

Q. (By Mr. Bourquin): Mr. Mohr, what is swab action?

A. Swab action? That constitutes—well, it works like an old-fashioned water pump. It pulls fluid with anything that you happen to be pulling. If the fluid rises with the object you are pulling, that is swabbing.

Q. Can there be such conditions in the hole that a pulling up of the drill pipe will induce a swabbing action at the bit?

A. Yes, it is possible.

Q. Would that occur when the solids in the fluid had settled out around the collar and the drilling bit?

A. If the solids had settled out, it could not very likely produce a swabbing action.

Q. This hole inside is just six inches in diameter; that is correct, isn't it? Six and a fraction of an inch.

A. I haven't any idea what the diameter of the hole was.

Q. You must have some recollection, or maybe you did not see the hole?

(Testimony of E. L. Mohr, Jr.)

A. No, the only thing I am concerned with is [422] the mud at the well.

Q. I think that will be apparent from the record. So we will understand what that swabbing action is, to illustrate, if the eraser of my pencil is the collar—and it has a collar-like aspect on the end of the drill pipe, hasn't it? A. Yes.

Q. Yes, you have seen them, and the bit fastened there in the collar, so that when the solids settle out—and they mean settle down when they say "settle out"— A. Yes.

Q. Settle out or down around that collar, in the space of that hole, as that pipe is pulled up, the solids around the collar will just draw up in that hole and produce the swabbing action below as it comes, just sucking in what is below it, won't it?

A. Yes, if that occurs, that will happen.

Q. And that would occur, as we said, if the solids had settled out, wouldn't it? A. Yes.

Q. Which they do if the mixture is not right, don't they? They tend to do that if the mixture is not right? A. Yes, it is possible.

Q. And which they do if anything introduced into the mixture tends to and actually does precipitate and settle out the solids; that is correct, isn't it? A. By that you mean water? [423]

Q. Water—I said salt, too?

A. Salt—that means you have several forms of salt. You can have rock salt or salt water. Salt water would tend to, if sufficient salt water was encountered, it would tend to promote settling of the solids.

(Testimony of E. L. Mohr, Jr.)

Q. I will have to go back to that 1943 pamphlet of your company's where it says salt or salt water tends to flocculate, etc., and settles out the fluid column around the bit. That is what we are talking about right now, isn't it?

A. Yes, but when you have five hundred grains salinity in your drilling fluid, you haven't a high enough salinity to flocculate your mud to the point where the solids will settle out.

Q. How much would you need?

A. Possibly a thousand.

Q. Possibly a thousand?

A. Two thousand.

Q. Salt would have these tendencies at 500 grains, but you think the amount was not sufficient to produce the action is that it?

A. That is right.

Q. That being one of the materials settling out. By the way, will it also settle out if the gel strength is off?

A. Your solids will sluff if your gel strength is low.

Q. Gel strength means the quality of a gelatinous character to hold things in suspense, like in molasses?

A. Yes, it is your suspension characteristic.

Q. If your gel strength is off, it will be settling out, won't [424] it? A. Yes.

Q. Assuming a swab action is taking place, when a swab action takes place and draws at the bottom

(Testimony of E. L. Mohr, Jr.)

of the well with the orifice of the drill pipe or packing off, if there is gas in the formation or if there is water in the formation, it is going to bring it there in the bottom of the well, won't it?

A. Yes, that is possible.

Q. It will pull it in?

A. Yes, if there is gas or salt water present.

Q. If there is gas there being drawn in at the bottom of a 5,000-foot hole, it will occupy the space of, we might say, if you drew up that pipe ninety feet, the gas would be sucked in to where you would have, with the pressure there at ninety feet, a volume of gas in the hole; is that correct?

A. Providing you had swabbed all of your mud out.

Q. There might be some margin of error. You might have something less than ninety feet at that atmosphere down there?

A. Yes. Just because you swab a hole does not mean you are creating a vacuum at the point below where you are swabbing.

Q. Supposing circulation is resumed and the fluid drops below that suspended drill bit at the bottom of the hole; does that force that gas back into the formation?

A. You are assuming that you have a vacuum at that point until you resume circulation?

Q. Not vacuum, swab action. We are talking in terms of that. [425] You have produced a swab action there and you have gas in the bottom of the hole below the bit. When you come up with your

(Testimony of E. L. Mohr, Jr.)

bit and the collar you are bringing your mud up with you, aren't you? A. Yes.

Q. Yes. You are not producing an absolute vacuum, but you are producing a space void of mud with some margin of error? A. Yes.

Q. When you resume circulation and the mud begins to flow out the end of that bit and drops to the bottom of the hole with the bit suspended, does that dropping mud force that gas back into the formation? A. Probably not.

Q. Of course not. What happens to that gas?

A. It is probably entrained in the mud.

Q. It is probably entrained in the mud. It is circulating. It begins to come up with the circulation? A. Yes.

Q. And perhaps with some elevation of its own because it is lighter than the fluid, isn't that true?

A. That is right.

Q. We are talking about what we have down there at 5,000 feet in a capsule, we will say, of 90 feet in that 6-inch hole. As that capsule is carried from the top, does it expand, does it displace more of the fluid than it did at the bottom?

A. Certainly it will.

Q. It will multiply its displacement of the fluid according to its approach to the top and the change in atmospheric pressure, won't it?

A. Yes, sir, you will have a certain [426] amount of expansion. However, you are assuming you are going to have a bubble of gas coming as free gas from the bottom of the hole to the surface, which, as far as I have ever seen, has never occurred.

(Testimony of E. L. Mohr, Jr.)

Q. Just let it be admixed in your mud which you have dropped in there any way you like with gas bubbles, gas and mud; it is coming up as you circulate, isn't it? A. That is right.

Q. Can you tell us now, it is true isn't it, that the volume of that, and therefore the fluid volume, the volume of fluid it will displace as it comes to the top, will multiply by the number of atmospheres between there and the top; that is correct isn't it?

A. I don't know of any way to calculate in actual round figures what the expansion would be. However, there is an expansion.

Q. Have you ever studied anything upon the subject? A. Upon the expansion of—

Q. Yes, on the change in the volume of gas from 5,000 feet up as it is brought up?

A. The volume of gas will vary inversely with the pressure applied.

Q. Exactly, and about how many times would you say it would be multiplied at 5,000 feet if you had a normal bottom-hole pressure, a normal bottom-hole pressure of about twenty-one hundred pounds?

A. Some gases will expand much more than others. [427]

Q. Let us take any gas. A gas at the bottom of a hole 5,000 feet deep with a normal bottom-hole pressure of 2,100 pounds: How many times will that expand rising to the top of that hole?

A. Taking a 90-foot cylinder, and you have, say, an eight and a half inch hole, you probably have

(Testimony of E. L. Mohr, Jr.)

about six and a half barrels. As that approaches the surface you could possibly have 50 barrels of gas.

Q. Won't it multiply 143 times the number of atmospheres in 5,000 feet in depth?

A. I don't know.

Q. You do not know the figures, and I am only asking you things that I read and asking you to confirm. I certainly do not profess my own. But we will all agree it will increase in volume as it comes up? A. That is right.

Q. And as it increases in volume it will increase the displacement of the liquid, won't it? It will increase the volume of the liquid it displaces, the mud? A. Yes, any gas cutting is——

Q. As that gets up to the point near the top where the pressure of that gas carried up is less than the hydrostatic pressure that remains there in the column above it, what will happen?

A. Repeat that, will you, please?

Q. When that gas gets up to the point that its pressure exceeds the hydrostatic pressure that remains there in the column above it, what will happen?

A. Your gas cutting will increase the volume and the fluffiness of your mud will [428] be increased considerably.

Q. Take your capsule coming up. Let us get it to within 500 feet of the top, and without getting into physics, let us assume its pressure exceeds the hydrostatic pressure at 500 feet of the mud column above it; what will happen?

(Testimony of E. L. Mohr, Jr.)

A. If you had pressure following it, it would probably blow.

Q. Won't its own pressure suffice?

A. Well, yes, it would, but in that case, I don't know, I don't think it could happen.

Q. You say it would probably blow. Do you mean blow out?

A. Yes, if you had the pressure behind it.

Q. Blow out the column above it. Now, when you have blown out five or six hundred feet of the column above it, what will the column below it and the gas at the bottom of the hole do then?

A. Well, if the hydrostatic head is not sufficient to maintain the formation pressure, then you are going to have further gas cutting.

Q. In other words, if you have first blown out enough of the column at the top to reduce the hydrostatic pressure, the weight of that column of mud to a point less than the gaseous pressure below, after the first capsule goes out, the mud will rise to the top and she will go out again, won't she?

A. Yes, that theoretically is possible.

Q. You will get this geyser action that your company writes up, won't you?

A. Geyser action refers only to the [429] spotting of the mud.

Q. I am not going to get into an argument about geysers now.

Your Honor, I think that concludes the cross-examination. May I ask my associate's advice on the subject?

(Testimony of E. L. Mohr, Jr.)

The Court: I do not know whether you need it or not, but you can ask him.

Mr. Bourquin: I have always found that it helps me.

The Court: I am a little skeptical about your statement that you only read on this subject.

Mr. Bourquin: That is all from the witness.

Mr. Scampini: May I ask a couple of questions, or shall we take a recess at this time?

The Court: Whatever you wish. Will it take very long?

Mr. Scampini: May we take a recess, your Honor?

The Court: We will recess, ladies and gentlemen, until tomorrow morning at ten o'clock. I will ask you please bear in mind it is your duty not to discuss this case among yourselves nor permit anyone else to talk to you about it or to form or express any opinion concerning the case until it is finally submitted to you. We will recess until tomorrow morning at ten o'clock.

(Thereupon an adjournment was taken until tomorrow, Wednesday, January 29, 1947, at 10 o'clock a. m.) [430]

(Testimony of E. L. Mohr, Jr.)

Wednesday, January 29, 1947, 10:00 A.M.

The Clerk: United States of America vs. Certain Land in Contra Costa County; on trial.

Mr. Bourquin: Ready, your Honor.

Mr. Scampini: Ready. Are you through, Mr. Bourquin, with Mr. Mohr?

Mr. Bourquin: Yes.

Mr. Scampini: Mr. Mohr, will you resume the stand?

E. L. MOHR, Jr.

recalled;

Redirect Examination

By Mr. Scampini:

Q. Mr. Mohr, at yesterday afternoon's session counsel on the other side asked you numerous questions bearing upon what may happen, as I understand the transcript, or what might have happened in the event that some swabbing action had been effected in this well at the time when the drill and the pipe were being lifted out of the hole and got stuck. I will ask you, Mr. Mohr, whether or not any swabbing action was present in this well between the period of November 27th up to the time of November 29th when the well blew out, to your knowledge? A. No, there was not any.

(Testimony of E. L. Mohr, Jr.)

Q. Upon what information that is available to you or observations made by you do you base your conclusion that no swabbing action was present in this case?

A. Well, for two reasons. [431] The first is in order to create a vacuum, as he illustrated by having a ball on the collar around the hole and create the vacuum by this plunger method he would have to have a complete seal in and around the drill pipe, but as long as the drill pipe is being maintained the drill collar down the hole would be—to which the fluid passes you can't create a vacuum because your fluid will go through. In other words, it will go through the drill pipe——

Q. Are you talking about circulation?

A. No.

Q. What is the effect of the circulation on the subject of the existence or non-existence of swabbing action?

A. In order to create a swabbing action, such as was illustrated there, you would have to have a complete seal around the bit or drill collar in whatever position the collar would happen to be, and if you have that situation, a situation such as that, you would have no circulation at all, and there was complete circulation at all times prior to and immediately after the blow-out.

Q. So we will all understand it, by circulation you mean when the process of the mud fluid being pumped into the drill pipe and down the drill pipe to the bottom of the hole, or wherever the bit is

(Testimony of E. L. Mohr, Jr.)

located, and then the bit has a couple of holes, or three holes in it—— A. Yes.

Q. And the mud fluid goes out through the bit by means of the holes? A. That's right.

Q. And it then comes outside the drill pipe?

A. That is correct. [432]

Q. And comes back to the surface by using the space between the drill pipe and the walls of the hole? A. Yes.

Q. If a ball had formed itself around the drill or place of drilling would there have been any space between the drill pipe and the side wall through which the mud fluid could come back to the surface?

A. No.

Q. The circulation then would have stopped?

A. That is correct.

Q. Do you know the nature of the formation through which the well was drilling just prior to the period when it started to come out of the hole?

A. Yes. They had been drilling in shale, and they had drilled into what the driller and the tool pusher termed a sand break.

Q. Had been drilling through shale——

Mr. Bourquin: I ask that be stricken as hearsay, what the driller and tool pusher told the witness.

Mr. Scampini: That is only what is called a—that is what they termed it.

The Court: I think the objection is good. You asked him if he knew what the formation was.

Mr. Scampini: Very well.

The Court: I will sustain the objection.

The Court: It is argumentative. I think that is (Testimony of E. L. Mohr, Jr.)

Q. (By Mr. Scampini): Do you know of your own knowledge what formation the drill had penetrated just prior to coming out of the hole?

A. Well, on that day they have an entry, "Sand." [433]

Q. Prior to reaching the sand formation do you know of your own knowledge through what kind of a formation the well had been drilling?

A. That is where the log shows shale formation.

Q. Does the log, as far as you know, indicate the penetration of any clay formation at any time prior to——

Mr. Bourquin: I will submit the log, itself, is the best evidence.

true. Sustained.

Q. (By Mr. Scampini): Did you examine the log, yourself? A. You mean what day?

Q. When you arrived and when you were treating the mud?

A. Yes. I examined the log usually for the depth of the hole at the time, and also any pertinent information that might be contained.

Q. What would be pertinent information to you?

A. Well, in the case of having trouble, as they were, I would be interested in knowing whether they were in sand or shale or any type of information that might be of interest to me as far as treating any mud condition they would.

(Testimony of E. L. Mohr, Jr.)

Q. As a result of your studies did you have occasion to treat your mud for the purpose of curing any clay formation encountered in the course of drilling the well? A. No.

Q. With respect to the mud that was treated by you, do you know whether or not the viscosity of the well was kept substantially [434] at the condition deemed requisite by you for the purpose of treating the condition encountered?

Mr. Bourquin: I object to that. The record is the best evidence.

Mr. Scampini: The record is not of the witness. It is not his record. He can state in his own way the result of his examination. The records are the records of someone, the drill pusher has put down what he thinks is the viscosity and that is not binding on this witness.

Mr. Bourquin: This gentleman has said he visited the well at intervals of two or three days, and at the time of his visits made a test. Between times the log shows what the viscosity was on the successive shifts. This question would allow the witness to assume something at variance with the log at intervals when he was not present at all.

The Court: I don't see how the witness can testify to anything except what he saw, or when he was there.

Mr. Scampini: That is what I am trying to bring out, your Honor, if you will permit the reframing of the question.

(Testimony of E. L. Mohr, Jr.)

Q. During all this period of time you were there between, let us say, the period of November 27th to 29th, how often did you make tests of the mud as to consistency, weight and viscosity?

Mr. Bourquin: I object to that. That has already been testified. It is not proper redirect examination. [435]

The Court: I think it has all been gone over by the witness, counsel, on direct examination. I don't know just what theory you are proceeding on. Do you want him to make some change in what he said?

Mr. Scampini: No, your Honor. The purpose of the question is to enter into the record the opinion of the witness as to whether that mud was in proper condition for the purpose of treating the formations and conditions encountered in the course of drilling the well during that period of time.

The Court: He has already stated, counsel, that he gave his advice and direction as to what to do, but that others performed the actual work.

Mr. Scampini: That is right.

The Court: You are asking him now to change that?

Mr. Scampini: No, your Honor. I am going to ask him whether he checked on the work done by others in the drilling of this——

The Court: You are going to show the entries in the log book are not correct, is that it?

Mr. Scampini; No, not necessarily. Those entries may be correct and still that mud would be in proper condition for the purpose; in other words,

(Testimony of E. L. Mohr, Jr.)

a difference of two or three degree, or whatever they call it, in viscosity, or five or ten degrees, might mean nothing at all in the course of operations in drilling a well or treating mud, as long as you [436] are in compliance with recommendations.

The Court: Isn't that argumentative, counsel? You can ask him his opinion as to the matter you just spoke of, but I don't see how it would be proper redirect examination to put it in the question you have just asked. I think the line of inquiry that you are seeking to pursue is whether or not the difference would be substantial to have any effect. That would be proper, a proper source of inquiry, but the way you asked the question, I think, is not proper redirect examination.

Mr. Scampini: We will follow your Honor's advice.

Q. You examined the log, Mr. Mohr, and you observed that the recommendations which you had made varied from the memoranda put down on this log, did you not? A. That is correct.

Q. Were those differences between the entries on the log, assuming, of course, that they reflected correctly the viscosity and consistency and weight of the mud, from your recommendations so substantial as to effect the character of the mud in respect to performing the objects which you had in mind when you made the recommendation?

A. No, they were not.

Mr. Scampini: That is all, your Honor.

(Testimony of E. L. Mohr, Jr.)

Recross-Examination

Mr. Bourquin: If the log is here I would like to see it a moment.

Q. Would you take the log, please, Mr. Mohr, and calling your attention to the entry on December 2, 1944, will you please [437] read the entry on that tour or tower, the second shift of that day?

A. "Working and circulating pipe add aqugell to mud."

Then the morning tour, shift, the daylight, "Working pipe and circulating. Knocked ball loose. Lost circulation."

Q. What is that "knocked ball loose?"

A. Yes.

Q. The entry is, "Working pipe"—Will you read it again?

A. "Working pipe and circulating. Knocked ball loose. Lost circulation."

Q. "Knocked ball loose." Do you know what experience would describe "knocked ball loose?"

A. Assuming there was a ball there that means they had sufficient movement in the pipe to where they could lower the pipe and shake a ball loose.

Q. You say "assuming there was a ball there." Are you doubting for a moment the record that they knocked the ball loose?

A. Well, I am assuming that from the information which came from the well later that the casing had collapsed, thereby causing the pipe to stick.

(Testimony of E. L. Mohr, Jr.)

Q. Are you accepting the fact they knocked the ball loose on December 2nd, or are you rejecting it?

A. I don't know. I was not there on December 2nd.

Q. What kind of a ball does that refer to?

A. Well, it can mean cuttings lodged around the bit.

Q. Does it mean that the materials are balled around the bit at the end of the drill pipe?

A. Ordinarily that would be [438] true if you have no circulation, but while you have circulation you are circulating the material away from the face of the bit at all times, and therefore you couldn't form a ball around the bit if you had circulation.

Q. So we must assume from what you say if it had a ball at the end of the bit they could not circulate.

A. That is true, if it were such to create a vacuum or anything such as was illustrated yesterday.

Q. Wait. A ball is around the bit. It would be just as if I take my hand to represent the collection or deposit of the materials, the cuttings, the clay that would settle around that bit, and they would adhere to it so as to create a ball on the end of the bit.

A. That seems to me——

Q. Please, just answer. Does that describe it?

A. Well, you have the description "on the end of the bit"; that is not true.

The Court: Then counsel has not described it correctly.

(Testimony of E. L. Mohr, Jr.)

The Witness: No, that is not correct.

Q. (By Mr. Bourquin): Let me, for the purpose of illustration, make on the blackboard, this will be very crude, a small drawing.

Mr. Scampini: Let's take the map. The blackboard is here, take that map.

Mr. Bourquin: Can you accept this as representing the end of the drill pipe and the bit (drawing figures on blackboard? [439] A. Yes.

Q. In other words, that is the pipe terminating in the bottom in kind of a collar that houses what I have said are like gears in there that turn to cut the formations. A. That is correct.

Q. Let's exaggerate that a little bit, so it will be plainer to the jury, let's take this figure, the larger one, as the end of the drill pipe. Let's put the collar on it, something like that. Is that about right?

A. Yes.

Q. Now, when we forget the record and forget this case, when we speak of a ball knocked loose, do we mean a collection of materials on that collar in the shape of a ball?

A. The ball will not go completely around.

Q. Would you step down?

A. That drawing is incorrect.

Q. You draw a ball on a bit. I want to assume a ball, don't argue the question, you are assuming a ball. Draw a ball on that bit.

Mr. Scampini: I suggest the hole be drawn on the blackboard also to indicate to the jury how it sizes up in reference to the hole, and where the bit, itself, joins it.

(Testimony of E. L. Mohr, Jr.)

The Witness: I will draw two vertical lines.

Mr. Bourquin: I want the witness to answer the question. If Mr. Scampini wants to carry it further, of course I respect his right to do it, although I think there is some confusion now under the question and the instruction.

Mr. Scampini: I am just trying to help out.

The Witness: That is the ball. [440]

Mr. Bourquin: Stand over so the jury can see. You have drawn these to represent the side of the hole?

A. Yes.

Q. Now, how big is that hole in this case?

A. I am not absolutely sure of the diameter of the hole. It was around $6\frac{3}{8}$ or $6\frac{1}{4}$ at that depth.

Q. Around $6\frac{3}{8}$ or $6\frac{1}{4}$ at that depth, inches?

A. Yes.

The Court: Just stand to the side of the board so the jurors can see.

Q. (By Mr. Bourquin): You have drawn in the part I will shade the end of the drill pipe in the hole.

A. Yes.

Q. When we come to this I wanted to draw horizontal lines. What is that; that is the bit and the collar, is it?

A. That is the bit.

Q. That is the bit. Does that show the collar, too?

A. The drill collar is above.

Q. The drill collar is above. In other words, the bit at the bottom spreads out, fans out from the bottom of the drill pipe?

A. Yes.

Q. What was the outside diameter of the drill pipe?

(Testimony of E. L. Mohr, Jr.)

A. I would have to look at the log. I think 3½-inch drill pipe.

Q. That is the outside diameter? A. Yes.

Q. Leaving then between 2½ inches or 2¾ inches between the drill pipe and the sides of the hole?

A. Correct.

Q. Or, in other words, an inch and a quarter or an inch and [441] three-eighths on each side of the pipe?

A. Approximately an inch and a half.

Q. Approximately an inch and a half, an inch and a half on each side. Now, then, this that you have drawn here that I will put in solid, you say that represents a ball on the bit, a ball on the bit, a kind of elliptical shape?

A. Well, it would probably come flush with the edge of the bit.

Q. It would probably come flush with the edge of the bit, something like that (indicating). When that forms that is formed from what?

A. Oh, it forms from wall cake or possible cuttings from the face of the depth.

Q. It could be formed from wall cake adhering to the drill pipe or could be formed from cuttings settling in there?

A. Yes, assuming the formations are subject to water.

Q. Assuming the water lost in the sides of the hole is in the formation and the water will extend in there? A. Yes.

Q. So this is the side, here? A. Yes.

(Testimony of E. L. Mohr, Jr.)

Q. And it is something which, depending on the conditions there, will occupy more or less of the space between the drill pipe and that hole and the side of the hole? A. That's right. [442]

Q. Now, you have heard it stressed here, or have you, by other witnesses for the defendants that when they undertook to circulate after the blowout they had a very limited circulation. Have you heard that stressed here?

A. Immediately after the blowout——

Q. No, I have asked you if you have heard that stressed here. A. Yes.

Q. I do not want you to tell me what happened there unless you were there.

Mr. Scampini: A little louder. I can't hear you.

The Witness: The answer is yes.

Q. (By Mr. Bourquin): Would that afford an indication that the ball which on the bit had so occupied the hole there that notwithstanding the pressure exerted at the top it did not leave enough free space in the hole to circulate the mud as it was propelled out of the drill pipe?

A. I do not think the presence of a ball would give circulation such as they had.

Q. Would the presence of the ball limit the circulation?

A. Yes, if a ball were present it would limit circulation to some extent.

Q. If that ball arose or formed to a sufficient extent in this inch and a half space on either side of the pipe it would in fact shut off the passage, wouldn't it?

(Testimony of E. L. Mohr, Jr.)

A. Yes, if the outside diameter of the ball was true as to the gauge [443] of the bit, then that ball could possibly shut off the circulation.

Q. And if the wall was heaving in, as was described here, heaving shale in, the formation heaving in would cooperate with the formation of the ball to obstruct the passage, wouldn't it?

A. Well, if the formation heaved in you have a greater space on either side of your ball, so technically if the formation heaves you have circulation through the space just emptied by the shale.

Q. You mean if you had a breakaway in the formation there like a cavity, that would add to the obstructing agency, but would leave a space around here, is that it?

A. That is correct.

Q. I see. Would any of that action there tend to more readily admit, or would the action taking place on the withdrawal of the bit in that condition more readily admit gases from the formation down there into the space from which the drill pipe was withdrawn?

A. If they had pulled a bit which was swabbing, it would do that. However, they will not pull a bit that is swabbing, because they can take a bit when it is swabbing from the fluid——

Mr. Bourquin: I am going to move that that be stricken as argumentative and not responsive.

The Court: Yes. We will get along faster if you will just answer the question and not argue about it. All he [444] asked was a theoretical question as to what would happen.

(Testimony of E. L. Mohr, Jr.)

Mr. Scampini: Some of these questions are argumentative, I respectfully submit.

The Court: No, I think the question can be answered. The witness goes on to tell what they would do. The latter part of the answer may go out.

Mr. Bourquin: May we have the question and answer read?

The Court: Yes, read the question and answer.

(Question and answer read.)

The Court: The part after the word "however" may go out.

Mr. Scampini: I move that the whole answer be stricken out and the witness be reasked the question, because the latter part is an explanation.

The Court: In order to clarify the matter, suppose you ask the question again. Strike out the question and answer.

Mr. Bourquin: Shall I ask it again or may I have the reporter read it?

The Court: The reporter may read the question again.

(Question re-read.)

The Witness: Yes.

Q. (By Mr. Bourquin): To draw another illustration here, say this is the bottom of the hole, the very bottom down here at "X"—can you see that, Mr. Mohr? A. Yes.

Q. In withdrawing a drill pipe from the bottom of that hole with a ball on it, what would be the effect so far as the [445] fluid, the mud at the bottom of the hole is concerned?

A. It would be lifted.

(Testimony of E. L. Mohr, Jr.)

Q. It would be lifted. In other words, as we drew up this ball we would carry up all or a large part of the mud fluid in the bottom of that hole, is that correct? A. That is correct.

Q. So that when we got it up to a point we would have a space below the bit without mud, is that correct?

A. No, for the reason that the drill pipe is full of mud when you are making a trip. The mud is equalized in the drill pipe and in the annular space, too, so the mud will flow from the bottom of the drill pipe—a certain portion of it will flow into the evacuated space.

Q. How big are those openings in the bottom of the drill pipe that the mud can flow through?

A. They vary. Three-quarters of an inch.

Q. You say if we pulled that pipe up it would tend to lift the mud? A. Yes.

Q. Wouldn't it create a void down there, to, let us say, an undetermined extent in the fluid at the bottom of the hole?

A. Well, in order to create a void you have to have a complete seal, which we do not have as long as we have holes——

Q. I mean a void of mud. Let us forget the vacuum.

A. No, it won't be a void because there will be a certain percentage of mud flow into it. [446]

Mr. Scampini: A little louder. I can't hear you, if I may say so.

(Testimony of E. L. Mohr, Jr.)

Q. (By Mr. Bourquin): If I took an ordinary plumber's tool that we know as a plunger, that is, the rubber on the bottom—we have it in the house; the plumber will use it to break up a stoppage—and I draw that up from the bottom of a hole that is no larger around than this hole is around the drill pipe and ball, and that hole is full of mud, as I get it up, do you mean to say that that mud is going to replace what I have drawn up just as fast as I draw it up?

A. If you have a volume of mud inside—your mud is equalized inside your drill pipe and on the outside, so it will not replace entirely.

Q. It won't replace entirely, and as we said yesterday—and let me say this again—we do not need a vacuum in the strict sense down there to admit gas in that hole, do we?

A. No, if the pressure is sufficient.

Q. You heard it said here that they were down there in the high pressure, weren't they?

A. Yes.

Q. So that no vacuum is needed; all it needs is room in that hole for that pressure to rush that gas into it; isn't that all that is needed?

A. That is correct.

Q. And as we said yesterday, when we admit gases into the hole replacing the mud, they displace the mud as they rise and also as the mud is circulated, don't they? A. Yes. [447]

Q. And they displace it to an extraordinary extent when those gases reach the top of a 5,000 foot hole, don't they?

(Testimony of E. L. Mohr, Jr.)

Mr. Scampini: I now respectfully submit that that is purely conducting an argument and a debate with the witness.

The Court: I think you covered that ground yesterday, Mr. Bourquin.

Mr. Bourquin: Yes, but I have wondered if you have determined overnight that where you said yesterday the space displaced yesterday would multiply twenty or thirty per cent, that it would actually multiply 143 times from the bottom of a 5,000 foot hole.

The Witness: I did not make that statement, that it would multiply 143 times from the bottom of a 5,000 foot hole.

Mr. Bourquin: I said so. Have you examined the question since yesterday?

A. It is a known fact that gases will expand upon the release of pressure.

Q. And to what extent will the gas from a 5,000 foot pit expand in its rise to the surface? How many times? A. I have no idea.

Q. There are ways, in addition to swab action, that gas will displace the mud fluid in the hole, aren't there? A. Yes.

Q. You heard it testified here, too, that this fluid was showing gas for days before this blowout?

A. Well, the testimony yesterday—there wasn't too much of that included [448] in my hearing yesterday.

Mr. Scampini: I didn't hear you, Mr. Mohr.

The Court: I think he testified yesterday he was only here yesterday.

(Testimony of E. L. Mohr, Jr.)

The Witness: Yesterday was my first day here.

Q. (By Mr. Bourquin): Yes, but in a fluid that is being gas cut, showing gaseous pressures at the bottom, you are getting a displacement all the time, aren't you?

A. Well, it is not actually a displacement. That is what they call gas cutting or entraining gas into the mud, which is aerated out at the surface.

Q. And if that fluid that that gas is cutting—it means it is entering, rising in it, doesn't it?

A. Well, it will rise with the flow of the mud, yes.

Q. And it will rise faster than the flow of the mud rate, won't it?

A. Well, it is a very small increase in the velocity of the mud, if any.

Q. In other words, you mean it has a tendency where it has cut to kind of retain its place in the stream?

A. Well, it will until the hydrostatic head is released to the point where the expansion can begin to take place.

Q. And it will retain its place and its expansion, then, if it retains its place, will only vary as it is raised by circulation in the stream?

A. That is correct.

Q. In a highly viscous fluid the gases will not—what did [449] you call it—they will tend to recirculate down the drill pipe, won't they?

A. They will if the mud is not aerated at the surface.

(Testimony of E. L. Mohr, Jr.)

Q. What do you mean by aerate?

A. That was the reason for the mixing.

Q. Mixing—in other words, the mixing is to take that gas out, isn't it?

A. Yes, sir, to stir it.

Q. To the extent that they get it out it is out, and to the extent it is not got out, it goes back down the drill pipe, doesn't it?

A. Yes, anything that is entrained and does not leave naturally.

Q. Just like you have seen in marshes when we were kids; you have seen gas bubbles come to the top of the mud, and they were so tightly held in a viscous fluid that they would not explode; you would have to break them?

Mr. Scampini: If the Court please, is this proper cross-examination? I respectfully submit it is an argument and debate. It is making an argument to the Jury. It is not conducting an examination of the witness within the scope of the redirect examination.

The Court: I think it is proper cross-examination of an expert. It may be you are covering some of the same ground you covered yesterday.

Mr. Bourquin: I think I am, your Honor. That is usually the vice of redirect and recross. Redirect is calculated to [450] pick up the witness on redirect examination and the recross is attempting to keep him in the same place.

Q. Mr. Mohr, a highly viscous fluid will also tend to carry around the circle and into the drill

(Testimony of E. L. Mohr, Jr.)

pipe again the cuttings and the clay that are carried up, won't it?

A. No, that is not true.

Mr. Scampini: I submit, that has been asked and answered three or four times, your Honor.

The Witness: That is not true.

Q. (By Mr. Bourquin): Aren't the cuttings and the materials in a highly viscous fluid tightly held?

A. Yes, they are raised to the surface. However, at the surface of the hole you have what you call a shale shaker, which eliminates through vibration all cuttings coming from the hole.

Q. All cuttings?

A. Except extremely small particles which have entered into the mud probably as inert material.

Q. On this question of viscosity, sir, do you mean to testify that where you have recommended that the viscosity be kept not higher than 35, that a viscosity of 90 plus is serving the same purpose?

A. That question of viscosity is extremely elastic. The recommendation of 35 seconds merely was to——

Mr. Bourquin: We will ask the witness to answer directly, your Honor. If he wants to explain, he can. I am asking him if he wants to state that a 90 plus is meeting a requirement [451] of not higher than 35.

The Court: Yes. Answer yes or no.

Mr. Scampini: The question started off by saying, "Do you mean to testify," which immediately begs a debate with the witness.

(Testimony of E. L. Mohr, Jr.)

The Court: I will overrule the objection. Answer yes or no, and then explain your answer.

The Witness: Yes, but the question of viscosity is such an elastic one that your fluctuation between 35 seconds and 90 seconds does not necessarily mean you are jeopardizing in any way the formations or the hole in which you are drilling.

Q. Why then, in your tests and reports do you continually admonish them to reduce that viscosity to 35?

A. That was to make it easier to eliminate the gas. The lower the viscosity the easier the gas is released.

Q. The easier the gas is released in the ditch?

A. Yes.

Q. So it is not returned in this vicious circle?

A. That is right.

Q. The fine materials are released in the ditch, is that true?

A. The fine materials are taken out by mechanical means.

Q. When a fluid tests 90 plus, what does the plus mean?

A. That 90 plus is a new one on me. That means it is 90 seconds and probably 90.2. It is very likely a fraction of a second over 90. [452]

Q. Doesn't it mean, too, 90 is as high as they are able to test it and still the flow is not complete?

A. Oh, no, 90 is extremely—there are extremely higher viscosities than 90.

Q. There are extremely higher viscosities than 90?

A. Yes.

(Testimony of E. L. Mohr, Jr.)

Q. You can raise viscosity until you would have a complete plastic, couldn't you?

A. That is true.

Q. Would that be a desirable drilling fluid?

A. No, an aqueous solution, no.

Q. What do you mean by an aqueous solution?

A. An aqueous solution mixed with water.

Q. With this mud solution mixed with water?

A. Yes.

Q. When you admonished these people on November 24 and 25, that water alone is the only thing that would correct their mud, what did you have in mind?

Mr. Scampini: I object to the use of the words "When you admonished these people," your Honor, as a conclusion and argumentative. It is a recommendation, not an admonition.

Mr. Bourquin: I will substitute the word "recommended."

The Witness: The use of water would naturally lower the viscosity by reduction of percentage of solids in the mud.

Q. It had become so viscous and so jellied, chemicals had lost all effect on it, isn't that so?

A. No, the chemical treatment was not—it was due more or less to the salinity of the mud, not in effect it had become so viscous that it [453] could not be treated.

Q. What did you mean when you said that chemicals had lost all effect on this fluid?

Mr. Scampini: I submit that that question has

(Testimony of E. L. Mohr, Jr.)

been asked and answered and gone into yesterday, your Honor; not proper recross-examination.

The Court: I will overrule the objection. You asked him whether or not this test of viscosity meant anything on redirect. He is entitled to pursue that. Overruled.

The Witness: Could I have that question again?

(Question read.)

A. Well, in the presence of salt in a clay base drilling mud, the effect of ordinary chemical thinners do not tend to reduce viscosity as rapidly as they do in mud that is not contaminated with salt.

Q. Did you say yesterday you did not sell anything but baroid?

A. When I was on the job that is all we had used.

Q. Do the baroid people sell anything else to be used in these muds besides the baroid, the weighting material?

A. Oh, yes.

Q. What else?

A. They have a very long list of materials. They have Aquagel.

Q. Was that used in this fluid?

A. So far as I know, no.

Q. What else? A. They have Impremex.

Q. Was that used? A. No, it was not.

Q. What else do they sell?

A. They sell Stabilite.

Q. Was that used? A. Not in this well.

Q. Anything else?

(Testimony of E. L. Mohr, Jr.)

A. Baroid is the only thing that we have that was used.

Q. When you have a high viscous fluid, won't the addition of the baroid itself tend to increase the viscosity?

A. Your Honor, that can be answered two ways. The presence of baroid in drilling mud tends to increase the hydrostatic head of your mud on your funnel, thereby giving you a lower viscosity count than on a straight ordinary drilling mud without weight. On the other hand, if you are adding the baroid sometimes it is necessary to water the mud so it remains stable as far as viscosity is concerned. It should not go up, but should go down.

Q. What happens in that event?

A. The viscosity goes down?

Q. I say, what happens in the latter event with the viscosity?

A. If you watered mud and added baroid to it, then the viscosity would be lower.

Q. And in the other phase of the matter it will be higher?

A. Not necessarily. You can increase the hydrostatic head of your mud on the Marsh funnel and drive your mud out faster through the aperture than you did before, so your viscosity is lower in seconds.

Q. What would be the effect of introducing crude oil into the [455] mud fluid?

Mr. Scampini: If it please the Court, I respectfully submit that that is not proper recross-examina-

(Testimony of E. L. Mohr, Jr.)

tion. I never asked any questions as to the subject matter of crude oil bearing upon it.

The Court: I will overrule the objection.

Q. (By Mr. Bourquin): The answer, Mr. Mohr, please?

The Witness: That is a very difficult thing to say, what will happen upon adding crude oil to mud, because under certain conditions it can cut the mud, fluff it up a little bit, such as gas cutting, or in the cases where you have extreme hardness present it can convert partially into a soap.

Q. Will the oil displace the fluid?

A. Certainly, if you add a certain volume it will displace an equal volume.

Q. How many gallons are there in a barrel of oil? A. 42.

Q. What?

A. 42, that is, an oil-field barrel.

Q. Or about one thousand gallons in 25 barrels, is that true? A. Yes.

Q. Do you know how many gallons of fluid were in that annulus, that is, in the hole outside the drill pipe at 5,000 feet? A. It can be calculated.

Q. Tell us about what it was.

A. I would say approximately two hundred barrels in the annulus.

Q. Approximately two hundred barrels or how many gallons? [456] A. Eight thousand.

Q. In other words, the introduction of 25 barrels of oil would represent about twelve per cent of the volume of the fluid in the hole?

A. That is right.

Mr. Bourquin: That is all, sir.

Mr. Scampini: No further questions, your Honor.

The Court: That is all.

Mr. Scampini: I am going to start with Mr. Norris's examination, which will take quite some time.

The Court: We will take the morning recess at this time, ladies and gentlemen. Please bear in mind the admonition of the Court.

(Recess.) [457]

Mr. Scampini: I will call Mr. Byron Norris.

BYRON B. NORRIS,

called as a witness on behalf of Defendants; sworn.

The Clerk: Will you state your name?

A. Byron B. Norris.

Direct Examination

By Mr. Scampini:

Q. Mr. Norris, what is your profession?

A. I am a consulting engineer and geologist.

Q. How long have you been engaged in that profession?

A. Since 1935.

Q. What school did you attend for the purpose of studying that profession?

A. Iowa State College.

Q. When did you graduate?

A. 1921.

Q. With what degree?

(Testimony of Byron B. Norris.)

A. Degree of Bachelor of Science in mining engineering.

Q. After leaving the Iowa State College what did you do?

A. During 1921 to 1923 I was engaged in mining work in Idaho and California.

Q. From 1923 and thereafter what did you do?

A. 1923 I went to work for the oil fields, in the oil fields, first as a roustabout and then as a rough-neck, then as a derrick man.

Q. How long did you work in the oil fields?

A. Until 1926.

Q. After 1926 what did you do?

A. I took a place with the State of California as an inspector in the Division of Oil and [458] Gas.

Q. How long were you in that position?

A. As an inspector I would say about two years. Then I was promoted to engineer.

Q. How long did you remain as engineer for the California Division of Oil and Gas?

A. Until 1935.

Q. What was the scope of your duties as inspector or engineer?

A. Well, I made tests on wells and reported on work, and had engineering supervision of the fields assigned to me.

Q. What fields were assigned to you?

A. Well, I was located in the Los Angeles, Long Beach and Taft offices in that period.

Q. Where is Taft located in California?

A. Taft is on the west side of the San Joaquin Valley, Kern County.

(Testimony of Byron B. Norris.)

Q. How long did you remain in the position of engineer with the Division of Oil and Gas?

A. From 1935—no, 1931.

Q. In 1931 what did you do?

A. There was an opening in another state office, the Division of Corporations, and I became the engineer in the State Division of Corporations at the Los Angeles office.

Q. Engineer of what?

A. Well, the work there consisted of examining all applications for permits to sell securities that require technical analysis. Most of these applications I ran out were for mining and oil companies.

Q. What was the scope of your duties or activities as such engineer for the Division of Corporations?

A. Well, I was given the duty to render reports, and to investigate the [459] various fields and specialize with reference to these applications.

Q. You say you remained there until 1935?

A. Yes.

Q. What did you do after 1935?

A. In 1935 I opened my own office as a consultant.

Q. Consultant of what?

A. Consulting engineer specializing in mining, petroleum and water supply.

Q. Where did you open your office?

A. In the Van Nuys Building, Los Angeles.

Q. Have you been engaged in that activity ever since?

(Testimony of Byron B. Norris.)

A. Not entirely. During a portion of 1942 and 1943 I gave up my office and went to work full time for the Army.

Q. In what capacity?

A. As an inspector of the technical work in the petroleum section, plant protection.

Q. What branch of the Army was that for?

A. The first part was under the air service, and then I was transferred to the Ninth Service Command.

Q. What was the scope of your activities in that work?

A. We were inspecting oil installations. That is, the Army was doing it with the idea of protecting them from possible bombing attacks. In other words, we were getting ready for a possible invasion.

Q. How long were you with the Army in that capacity? A. A little over eight months.

Q. Then what did you do?

A. I resumed my practice as consulting [460] engineer.

Q. As consulting engineer in the private practice of that profession for what companies have you done work in the last five or six years?

A. Well, Gibson Oil Company, McCope Oil Company, lately the Quinn Oil Company, and Caberra Oil Company, and for various corporations.

Q. What kind of work do you do in respect to oil companies?

A. I make reports after examination and geological service, and also give technical supervision to drilling operations.

(Testimony of Byron B. Norris.)

Q. Do the drilling operations concerning which you give technical supervision include wells being drilled for oil? A. Yes.

Q. And wells being drilled for natural gas?

A. Yes.

Q. Do you know Mr. Joseph Faria?

A. Yes.

Q. When did you first become acquainted with Joseph Faria? A. March 31, 1942.

Q. Under what circumstances did you become acquainted with him?

The Court: Counsel, I don't wish to interrupt the examination, but I have had—I hope counsel won't mind if I interrupt in an endeavor to shorten the examination of the various experts on both sides of the case, we have had many of these cases here. I think when counsel are qualifying an expert they can save a great deal of time by asking him for his opinion and then ask him the reasons upon which he bases the opinion, and that saves a great deal of time on your examination.

Mr. Scampini: May it please the Court, I am not using Mr. [461] Norris as a valuation expert. He did the geology on this structure and supervised the drilling of the well.

The Court: Oh, I am sorry. I thought he was an expert as to value.

Mr. Scampini: I appreciate your Honor's point, and I will follow that suggestion when we reach that situation.

(Testimony of Byron B. Norris.)

Q. Under what circumstances did you first become acquainted with Mr. Faria?

A. A party by the name of A. W. Bass came to my office——

The Court: Counsel, why go into all that? Did this witness actually make an investigation of this property and then supervise the drilling?

Mr. Scampini: Yes.

The Court: Then ask him.

Q. (By Mr. Scampini): In the course of your practice did you have occasion to make a geological report with respect to certain properties owned by Cal Bay Corporation at or about the vicinity of Pittsburg? A. Yes.

Q. When did you first make the investigation?

A. Well, the investigation started on March 31, 1942.

Q. What was the first thing you did that day?

A. The first thing I did was to go over these properties with Mr. Faria with the idea to see if they wanted a report.

Q. After you had made your preliminary report what conclusion did you reach, preliminary check?

A. It was my opinion that [462] the formations that were capable of producing oil were present and also that there was an anticlinal structure present.

Q. After you reached that conclusion what did you do?

A. I continued my field work with the idea of completing that report.

Q. What did your field work consist of?

(Testimony of Byron B. Norris.)

A. Well, it was a geological survey of the area mainly from Kirker Pass down to Concord.

Q. Mr. Norris, you are familiar, are you not, with the map which is on the board? A. Yes.

Q. Marked as Defendants' Exhibit 11 for Identification. Are you familiar with that map?

A. Yes.

Q. What is that map?

A. That is Mr. Blandsford's map, James C. Blandsford Map of the Oil Fields of California.

Q. What are the green spots on that map, what do they indicate? A. Oil fields.

Q. What do the red spots indicate?

A. Gas fields.

Q. Will you please point out on the map with this marker or stick the location of the properties of Cal Bay Corporation investigated by you?

A. The area right here colored in orange.

Q. In the immediate vicinity of that area what fields were producing at the time that you first made your investigation?

A. At the time I made this investigation the Rio Vista, McDonald Island, and Tracy fields were producing. [463]

Q. Were any drilling operations going on at the time at field known as Honkers Bay, immediately across the river from Cal Bay Corporation properties?

A. I don't believe when I originally made the investigation they were, but they did shortly after.

(Testimony of Byron B. Norris.)

Q. Were there any drilling activities going on immediately across the river at a location known as Suisun Bay at that time?

A. There were either at that time or shortly after.

Q. Will you now point out the vicinity known as Suisun Bay? A. Right here.

Q. Where is Honkers Bay? A. Here.

Q. In your preliminary studies did you have occasion to study the geology of the producing fields in the vicinity of the Cal Bay property?

A. Yes.

Q. What source did you go to for the purpose of studying your geology?

A. Well, at the time most of the fields in that area had not been written up, but my main source was the Geological Map of the State of California, and Geology of California, by Reid, which mentioned this area.

Q. After making that preliminary study did you make an investigation as to the rocks or formations, that is the structure of the Cal Bay property?

A. Yes.

Q. What did you do and accomplish?

A. Well, I covered the area in the usual way of a geological survey, I observed outcrops—— [464]

Mr. Bourquin: What the witness is saying would smack more of cross-examination. I would object. We will consume a great deal of time asking him everything he did. I will object to it.

Mr. Scampini: It is preliminary: I am going to ask as to what he found on——

(Testimony of Byron B. Norris.)

The Court: I think the most important thing is what was his opinion as to the nature of this area. You have already qualified him as an engineer and what-not. I think it would save time if we get right down to the meat of this matter and have him say just what he saw about the area.

Mr. Scampini: I am just as anxious as anyone to save time. We are dealing with a subject that is very technical, and I very respectfully ask leave to have him state exactly what findings led to the conclusion of the witness that he will eventually give.

The Court: I don't think anyone is objecting to him stating his conclusion, but every physical movement he made in connection with the matter is unnecessary, I would think. I think it could be shortened by getting right down to the heart of the matter and asking him—I have seen dozens of the experts get on the stand—I don't say it was any criticism—but they usually ask them questions and if you let them go they are like a horse without a bridle, they just keep on galloping for such a long time. If you just confine them on [465] direct examination and then if you want to know what their opinion is concerning some matter we will get along more rapidly.

Q. (By Mr. Scampini): Mr. Norris, in the course of your investigation did you take samples of the rocks and formations found on the property of the Cal Bay Corporation? A. Yes.

Q. Did you study those samples? A. Yes.

(Testimony of Byron B. Norris.)

Q. And rocks? A. Yes.

Q. Did you determine the nature of those rocks and samples? A. I did.

Q. Did your studies include a consideration of the Mt. Diablo region in general?

A. Yes. That was the main basis for the Geological Survey.

Q. When you go prospecting for oil or gas structures, generally speaking, what do you look for particularly?

A. Particularly you look for formations that are known as productive of oil or gas in this State, and, secondly, you look for a structure on that property.

Q. What do you mean by "a structure"?

A. I mean a folding of the formations of such a nature they would contain oil or gas in commercial quantities.

Q. Will you describe the nature of the structure or formation which gather oil or gas in quantities that you generally encounter in your profession, what types are they?

A. The usual one is an anticline. There are also many fields in California that are formed against a fault. [466]

Q. Will you describe what an anticline looks like, or fault looks like to a geologist?

A. I think the best illustration of it would be the map showing Kettleman Hills; it has an elongated fold here (indicating on map).

Q. I will show you a picture for the purpose of illustration, if the Court will permit me——

(Testimony of Byron B. Norris.)

Mr. Bourquin: Are you going to offer the book or the picture? Can't the witness tell us——

The Court: Well, nature forces it up to the top and makes a kind of roof and you have oil underneath; is that right?

The Witness: That is right.

Q. (By Mr. Scampini): Describe how anticlines manifest themselves to a geologist looking at the location.

A. They manifest themselves mainly by——

Mr. Bourquin: Your Honor, this examination now—I don't want to be technical, but asking him how they manifest themselves would seem to be basing it on the anticipated opinion that he is going to say there is a structure, a producing structure, and to ask him about that now is testing him. I know the court allows some latitude.

The Court: I do. I don't want to cut anyone off from presenting the matter, but these things can be simplified some. The subject matter does not become more important by reason of his elaboration. It is either important or it is not. I [467] think the witness can tell what was the nature of the structure that he in his opinion was present on this property. That is the important thing, isn't it? We can be here for days if you are going to have a description geologically——

Mr. Scampini: May it please the court, may I again point out that one of the principal issues in this trial when it finally reaches the jury is the probability of commercial discovery at the sand

(Testimony of Byron B. Norris.)

drilled through in November, 1944, and so I know it will probably be determined by experts, geologists who have studied this structure, and their opinion will have more——

The Court: I am not cutting you off from that. Ask him what he found.

Mr. Scampini: But I have not started on the location yet and your Honor is already asking me, if I may respectfully say so, to ask him what he found. I don't know whether he found anything, your Honor. I am trying to find out. He has other maps there that he will lead up to.

The Court: Don't leave out anything you think is vital to the case. I don't want you to do [468] that.

Q. (By Mr. Scampini): How many weeks or days did you spend on this structure making your studies and observations?

A. My first visit was, I would say, about a week, and then I came back to check for a couple of days.

Q. In addition to looking for a source of rocks which are productive in other fields and structures, did you look for anything else when you studied the location for possible drilling?

A. We looked for seepage.

Q. What do you mean by seepage?

A. Any surface evidence of oil or gas.

Q. Did you find any surface evidence of oil or gas on the location that you were studying?

A. The gas well on the Mac Roche property.

Q. Did you find any indications of oil seepages in that neighborhood?

(Testimony of Byron B. Norris.)

A. Yes, in the neighborhood of Faria there are two old wells. At this point here (indicating), there are two old wells known as the Harding well, I think, depth 978, and the Atlas well, depth 1823, that I visited. They were producing small amounts of gas up through water. One of the wells showed a slight brown stain of oil.

Q. Do you know when those wells were drilled?

A. It was many years ago. I don't know the exact time, no.

Q. After looking for structure, source rocks, seepages, are there any other indications that you looked for in passing upon a possible location for drilling?

A. Yes, you [469] examine all outcrops to determine the dip of the various formations.

Q. Did you find any source rocks on the property of Cal Bay Corporation which are productive of gas or oil in other fields in California?

A. Yes, the eocene formation outcrops over most of that area.

Q. What is the eocene formation in geology? What does it represent?

A. It represents formations of the eocene age.

Q. Did you find any other formation or structure which is productive in other fields?

A. The miocene is immediately to the north.

Q. Did you find any other formations besides the miocene and the eocene?

A. Cretaceous outcrops to the south.

Q. Did you make a study of the formations

(Testimony of Byron B. Norris.)

encountered in the course of drilling the wells at Rio Vista and McDonald Island? A. Yes.

Q. Did you do that prior to your making a report? A. Yes, sir.

Q. To Cal Bay?

A. As much as was available at that time. There wasn't very much available.

Q. Can you state from what information the gas produced at Rio Vista is coming, or was coming?

A. It is coming from the Domengine formation.

Q. What is a Domengine formation?

A. That is one of the formations of the eocene age.[470]

Q. Can you state from what formation of production the McDonald is coming?

A. It is coming from the Martinez age, which is a little formation between the eocene and the cretaceous, known as the paleocene.

Q. Do you know of any other fields in the immediate neighborhood besides McDonald Island and Rio Vista which are productive of gas?

A. Yes, the Tracy Field.

Q. From what formation is the Tracy Field producing?

A. That produces from formations of the cretaceous age known as the Panoche.

Q. In the study that you made of rocks and formations lying on the property or visible on the property of Cal Bay, did you ascertain whether or not you had eocene formations of the Domengine character?

(Testimony of Byron B. Norris.)

A. Not in my original survey. They are several thousand feet underground. The surfaces eocene formation, yes.

Q. Did you find any cretaceous formations?

A. Yes.

Q. Did you prepare a geological map of the structure of the Cal Bay Corporation?

A. I did.

Q. Where is that map?

A. It is right underneath this other one.

Q. What is the map you are now looking at, Mr. Norris?

A. This map is a large scale map. It is the official map of Contra Costa County, California.

Q. What are the colors which are shown on the map in the [471] square to the righthand corner?

A. In order to show the geology, and especially the formations and structures, I took a section which is colored on this map and transposed all of the geology, so that you could see it all on one map. The various formations I have listed right on the map here as *we down* on the righthand side (indicating).

Q. Let us start from the river. Where does the river show up on that map?

A. This is the Sacramento River (indicating).

Q. At the very top of the map?

A. At the very top of the map. This is Suisun Bay.

Q. Where do the properties of the Cal Bay Corporation appear on the colored portion of the map?

(Testimony of Byron B. Norris.)

A. Within this heavy line here (indicating).

Q. How many miles from the shore line of the river do the Cal Bal properties lie?

A. Well, about three and a half, I would say.

Q. Starting from the river, what does the yellow color represent?

A. The yellow color is terrace deposits. It is a later deposit made by erosion of the older ones.

Q. And immediately following the yellow you have—that indigo blue?

A. This formation is miocene.

Q. What is that color?

A. That is a sort of red.

Q. What is the name of that formation?

A. It is miocene.

Q. Does the miocene lie above or below the eocene? [472]

A. Above. It is a very bold outcrop right along this line, which very clearly deliniates the structure.

Q. Are there any fields in California producing from miocene formations?

A. Oh, many fields, yes.

Q. What fields, for instance?

A. Well, Kettleman Hills and fields down in the Los Banos basin. There is quite a lot of the west side fields of the Midway and Sunset area that are miocene.

Q. Following the miocene, what did you locate on the property?

A. I located these various formations. What I did in the preparation of this map was to take the

(Testimony of Byron B. Norris.)

state geological map and transpose it right onto this map, as nearly as I could possibly, and then investigated this section with reference to the property under consideration.

Q. Following the miocene you have a yellow color here, haven't you, or a kind of light brown?

A. Yes.

Q. What is that formation?

A. That is the upper eocene in this area here.

Q. That is upper eocene. Does that form the contact between the eocene and the miocene formation?

A. Well, there is a small amount of oligocene in here.

Q. Does that show on the map?

A. Yes, this little area in here.

Q. In other words, the oligocene is a sort of separation sand between miocene and eocene, is that right?

A. Yes. [473]

Q. Now, is the eocene formation productive of oil or gas in any fields of California?

A. Yes.

Q. What fields?

A. Colinga, Oil City Pool, and at Santa Maria.

Q. Did you find any cretaceous on this location?

A. Yes, this purple is upper cretaceous.

Q. And the upper cretaceous is found immediately below the eocene, is that right?

A. Well, there is an upper eocene and a lower eocene. There is a very small portion of that on this map.

Q. Then below the cretaceous, what do you find?

(Testimony of Byron B. Norris.)

A. The upper and lower cretaceous—then you find this disturbance of Mt. Diablo here, the older rocks of the Franciscan and Jurassic. That is the Mt. Diablo right in this area.

Q. Now, is the upper cretaceous productive of any oil or gas in California? A. Yes.

Q. Where? What fields?

A. In Coalinga and Santa Maria.

Q. Where is the Tracy gas field producing from?

A. Oh, gas?

Q. Yes.

A. I misunderstood you. Yes, as far as gas, the Tracy and Vernalis fields are both producing from the cretaceous—from the Panoche formation.

Mr. Scampini: I now offer in evidence as Defendants' exhibit next in order the official map of Contra Costa County prepared by Mr. Norris. It has an exhibit number for [474] identification.

The Clerk: It is in evidence at No. 10, Mr. Scampini.

Mr. Scampini: I ask that it be admitted in evidence, your Honor.

The Court: Do you want No. 11 admitted in evidence, too?

Mr. Scampini: Yes, your Honor. I was going to ask that No. 11 be admitted in evidence.

The Court: If there is no objection, it will be admitted.

(Defendants' Exhibits 10 and 11 For Identification were thereupon received in evidence.)

Q. (By Mr. Scampini): I now refer you, Mr.

(Testimony of Byron B. Norris.)

Norris to a line which has been drawn on the colored map prepared by you over which appears the word "Anticline." Will you please state what that represents?

A. This line represents the apex or the very top of the fold which runs through this area.

Q. What area?

A. This area here (indicating). It runs from about this point here——

Q. Please name the points for the purpose of the record.

A. This is the Kirker Pass road here. It runs through the Bailey Pass road, and it meets a fault in the Willow Pass road.

Q. Where do the properties of the Cal Bay Corporation lie in respect to that line which indicates the apex of an anticline?

A. Inside this heavy line right here. The apex of this anticline runs diagonally right through the property.

Q. Mr. Norris, in relation to a gas well seepage that you say was located on the property of Cal Bay, how many feet, [475] approximately, would you say, or did you note the apex of the anticline lay or was found?

A. I don't believe I have ever measured that. The gas seepage is right here, and the top of the anticline would run some distance to the north of that.

Q. Approximately how far from the gas seepage would you say the top of the anticline was located by you?

(Testimony of Byron B. Norris.)

A. Well, I would say it was at least twelve hundred feet.

Q. About twelve hundred feet?

A. That is just an estimate.

A. The apex of an anticline is the point at which, by means of the dip of the various formations, you determine as the very crest of a fold.

Q. Now, what do you mean by "dips" of a formation?

A. In any fold the outcropping formation dips away from the apex. In this instance it was possible to measure them, principally in the road cuts. This miocene outcrop here is very prominent all through the area there, so that it pretty well defines that side of the structure. There were outcrops especially here in the Bailey Pass Road, the Kirker Pass Road, and also here on the Willow Pass, and there were others along the hill [476] here.

Q. After your studies of the outcrops and the dips did you reach any conclusion as to whether or not an anticline was present on the property of the Cal Bay Corporation, itself?

A. Yes, definitely there is an anticline.

Q. What was the trend of the anticline located by you?

A. Well, it follows this green line, here. It has a northwest-southeast trend.

Q. Can you state whether or not that trend parallels the trend of the anticline or structures found at Rio Vista or McDonald Island?

A. It does.

(Testimony of Byron B. Norris.)

Q. And when you do go looking for locations upon which to drill wildcat wells, do you take into consideration the trend of the structure?

A. Yes, that is very important.

Q. What consideration did you give to trend?

A. In an area where there are several fields it has been found from experience that most of the productive areas correspond with that particular trend. In other words, the folding action of the country has pretty well the same pattern.

Q. Mr. Norris, when you find a structure would it be sufficient to locate a structure for the purpose of being satisfied that it has oil or gas in it, or would you have to have something else in relation to that structure before you could have any oil or gas?

A. Basically, you would have to have the proper formations, of course. You would have to have a structure that was sealed.

Q. What do you mean by a sealed structure?

A. I mean a structure [477] that by reason of folding or faulting creates a trap that will hold any oil or gas it could accumulate.

Q. Did you find any closing of this structure on the Cal Bay property?

A. Yes.

Q. How did you note or upon what factors did you base your conclusion that this structure was a closed structure?

A. I based my conclusion upon this section of the structure from the Balley Pass over in which you have an antiline dipping in this direction (in-

(Testimony of Byron B. Norris.)

dicating), which comes up against the fault at that point, which makes a closure.

Q. How do you know that the structure is closed on the flanks of the anticline?

A. You know that by an examination of the various outcrops. In this instance you have a gentle fold of about 25 degrees to the north and approximately the same to the south.

Q. How do you know that the anticline in this case is closed at the southeast end of the anticline?

A. There is also a fault that goes through Bailey Pass. However, that would not be necessary to make a closure, because your dip is in this portion, which would cause anything to accumulate up in this area (indicating).

Q. Did you make a map of that anticline——

The Court: You mean the angle of the dip is in that direction? A. Yes.

Q. (By Mr. Scampini): Did you make a map of the anticline [478] and did you locate the map on a Government map entitled, "The California Antioch Quadrangle"?

A. Yes, here (indicating).

Q. What is that map to which you are pointing?

A. These are topographic sheets of the Antioch and the Mt. Diablo Quadrangle.

Q. Where do you obtain those maps?

A. They are made by the United States Geological Survey.

Q. Will you please point out where you located the anticline that you found lying on the Cal Bay

(Testimony of Byron B. Norris.)

properties in relation to the topography of the map as shown on that map?

A. This black line represents the anticline, the apex of the anticline.

Q. To the south of the anticline did you notice anything unusual with respect to the physical conditions of the property?

A. There is a prominent fault that runs in a southeast direction along the base of the hills, there, ending up in the Mt. Diablo uplands.

Q. Where does that fault emerge on that property so that it becomes visible to the naked eye?

A. It is visible here in the Willow Pass Road, in the cuts there.

Q. With reference to a piece of property owned by John S. Faria, are you familiar with that piece of property? A. I have been over it, yes.

Q. I will ask you whether or not the physical appearance of that piece of property was observed by you to be unusual or out [479] of the way?

Mr. Bourquin: Just a minute, your Honor, we are going to object to that as irrelevant and immaterial. I understand the John S. Faria property is not included in this lease, and I do not think that the attributes of the John S. Faria property become important at all, unless it is to test the affirmative assertions respecting the bordering property.

The Court: Maybe the witness is going to testify that that caused him to come to some conclusion with respect to the adjoining property. It is hard to say. I will overrule the objection for the time being.

(Testimony of Byron B. Norris.)

A. Why, yes. You will notice this black line labeled "Fault" goes right through that property. That fault is not just a line. It covers a considerable amount of area through here, I discovered from my field work, so that I would say that that property, or at least the great portion of it, is right in that fault zone, and I would not consider it as probable territory.

Q. By "probable territory," do you mean probable for the discovery of oil or gas in commercial quantities? A. Yes.

Q. The fault that you have just indicated with your stick, is that the same fault that you have referred to on the topographic map?

A. Yes.

Mr. Scampini: I now ask that the exhibit marked Defendants' Exhibit No. 12 for identification be admitted into evidence. [480]

The Court: Is that all one exhibit?

Mr. Scampini: No, your Honor. No. 12 is only this map here. I will ask that the topographic map of the Antioch Quadrangle be admitted in evidence as Defendants' Exhibit next in order.

The Court: Defendants' Exhibits 12 and 13 for Identification may be admitted.

(The maps in question, heretofore marked Defendants' Exhibits 12 and 13 for Identification respectively, were thereupon received in evidence.)

(Testimony of Byron B. Norris.)

Q. (By Mr. Scampini): Are you familiar, Mr. Norris, with Hager's book on "Practical Oil Geology"? A. Yes, I have it.

Q. I show you a picture found on page 12 of the book, and I will ask you to state what that picture represents.

Mr. Bourquin: We object to it, your Honor, as irrelevant and immaterial, unless it is a picture of this property, and this information can be authenticated.

Mr. Scampini: I am only going to use it for the purpose of illustration as to what an anticline looks like in a cross-section.

The Court: Can't you draw it?

Mr. Scampini: I was going to have a photostat made if your Honor admitted it for that purpose.

The Court: I would think that Mr. Norris could draw a picture of that very quickly. [481]

Q. Couldn't you?

A. Yes, your Honor, I could.

Q. (By Mr. Scampini): Will you please draw a picture of a typical anticline?

A. (Illustrating at the board.) An anticline, as you look at it, is simply a fold of that nature, a true anticline, your formation coming up and folding over. That may continue for some distance in this direction.

Q. And at the ends of the anticline, what is the technical name that you give to the ends of an anticline? A. The ends are known as the plunge.

(Testimony of Byron B. Norris.)

Q. And the sides of an anticline are known as what? A. The flanks.

Q. Did you notice whether or not the northwest plunge of this anticline found by you on the Cal Bay property plunged or not? A. Yes.

Q. Against what did it plunge?

A. It comes up against that fault there.

Q. Have you formed any opinion as to whether or not the fault against which it comes up had the effect of sealing the anticline as to that end?

A. Yes, I believe it did.

Q. With respect to the southeast plunge of the anticline will you please point out on the map there, Mr. Norris, that feature?

A. That would be coming in this direction (indicating).

Q. Did you notice against what that plunge comes?

A. In my field work I discovered this: It apparently plunged in this direction, because you get about at the Bailey Road and then it [482] seems to flatten out, then it comes up in this direction, that is, it plunges in both directions toward Bailey Road—not a great amount, but slightly.

Q. Did you notice anything peculiar or out of the ordinary with respect to the outcroppings on Bailey Road? A. Yes.

Q. Now, point out where Bailey Road lies on the map.

A. Bailey Road is this road coming through here and going to the hills toward Pittsburg.

(Testimony of Byron B. Norris.)

Q. Does it bisect at a right angle the anticline that you located there?

A. Yes, sir, it circles to a right angle.

Q. Please state what you observed with respect to the outcroppings noted by you on the Bailey Road?

A. The south flank or the dips are very evident at this point, here. It gives you a good basis for determining that flank of your anticline. Further, as you come up here, there is evidence of faulting to the right, here. There is a big sink and also a large spring. In doing my field work I came to the opinion that this area from the Bailey Road on over to Kirker Pass was badly faulted—probably several faults across it.

Q. Referring you to Defendants' Exhibit No. 12, will you please point out on the map there the Bailey Pass Road?

A. Yes. The Bailey Pass Road is so labeled there.

Q. Will you please state through what property the Bailey Pass Road goes?

A. It goes through this Sultan and Kellar property, and the Mt. Diablo ranches. [483]

Q. Do you know whether or not the Kellar property was leased at that time by anyone for oil and gas purposes? A. At the time——

Q. At the time you were working there.

A. I believe not at that time.

(Testimony of Byron B. Norris.)

Q. Did you observe any geological work going on on that property at the time you were working?

A. Yes, I did.

Q. Whom did you notice working there? Whom did you observe?

A. I noticed in a great many places——

Mr. Bourquin: This is not material. Are they going to prove the value of the subject property by reputation? Let us get back to the Faria property.

Mr. Scampini: If the Court please, it will have great bearing in determining the value of this property in that the Standard Oil Company drilled a well on the Kellar property, which it obtained in competition with Mr. Faria, drilling it simultaneously, and I am sure counsel on the other side will shout vehemently to this jury that the Standard Oil project ended up in a dry well, and we have ample reasons to prove it should have been known it would be a dry well from the beginning.

The Court: I think I would disallow that. Even petroleum engineers make mistakes. They drill lots of wells that are not successful. I do not see how that is competent evidence before this jury. That is in the speculative field. We [484] will take a recess until two o'clock, ladies and gentlemen. Please bear in mind the admonition of the court.

(A recess was taken until two o'clock p.m.)

Afternoon Session

January 29, 1946, 2 P.M.

BYRON B. NORRIS

recalled.

Direct Examination

(Resumed)

Mr. Scampini: Your Honor, before continuing with Mr. Norris, I would like to offer an exhibit which I should have done yesterday, as part of an exhibit which is in evidence, the two tickets, No. 6757 and 6758, which are part of the exhibit as to the Johnston formation test held on the 20th and 21st; that is a defendants' exhibit.

The Clerk: Are you offering these as part of another exhibit, or separately?

Mr. Scampini: I will offer these as Defendants' Exhibit next in order. They are supposed to be a part of the test made by the Johnston people on October 20th and 21st, your Honor, and I forgot to offer them yesterday.

(The documents were Marked Defendants' Exhibit 27 in evidence.)

[Defendants' Exhibit No. 27 appears on pages 1254 and 1255.]

Q. (By Mr. Scampini): Mr. Norris, referring to the official map of the California Oil Fields, Blandsford's Map, which is now in evidence, will you point out on that map for the benefit of the jury a typical anticline found in some of the oil fields of California?

A. Yes, I will. I will refer first to this Buena Vista Hills, part of the Midway Oil Field, and this

(Testimony of Byron B. Norris.)

section represents a section right straight across the San Joaquin Valley and covers from Taft to Bakersfield on the west side of the valley. The formation in this field is also an anticline of Elk Hills. There is the second fold of Buena Vista Hills, the third fold here on the Midway Field. Going in the other direction, you have a series of fields here, Fruitvale, Kern Front, and Mount Poso. These are known as the east side fields of the San Joaquin Valley. Each of them have been very productive due to the fact of a fault trap—you note these all dip this way.

Q. When you say “this way” will you indicate geologically the direction?

A. To the west on this particular section. The particular point is, the oil coming off these four basins is caught by that fault. That section in general is a pretty good idea of the California structures usual in the——

Mr. Bourquin: May I interrupt? For the purpose of the record, I understand the witness was just referring to Kern County. He is referring to things in Kern County.

Mr. Scampini: Referring to a cross-section of the valley fields of Kern County.

Mr. Bourquin: Kern County.

Mr. Scampini: Except——

The Court: Counsel, I don't want to interrupt this examination, but is there any dispute as to the general geological factors? I thought the question in this case was whether or [486] not this was a

(Testimony of Byron B. Norris.)

field or an area in which gas could be produced in commercial quantities.

Mr. Bourquin: I don't think there is any dispute.

The Court: It seems to me we are taking up a lot of time in explaining generally the geology of California to the jury. I suppose, Mr. Norris, it is true, is it not, in California there are many formations, geological formations?

The Witness: Yes, your Honor.

The Court: Wherein oil has been found and many where oil has not been found?

The Witness: Yes, your Honor.

The Court: I don't suppose there is any dispute as to the geological formations. This jury does not need to be enlightened as to the geological formations in California. The only question in this case, as I understand it, and understood it at the pre-trial conference regarding this particular place, what does the evidence show as to whether or not there is a gas deposit of commercial proportions? If the witness has anything to say on that subject that is pertinent, all right. Anything else to me appears to be entirely beside the issue and unnecessarily prolongs the trial. I think this is a matter that should have been determined at the pre-trial conference. It was not called to my attention or I would have limited the issues at the pre-trial conference. I have no doubt the witness knows something about the geology all [487] over California, as probably do hundreds of other experts in the

(Testimony of Byron B. Norris.)

business, but our inquiry is limited particularly to this precise place.

Mr. Scampini: That's right.

The Court: Is a deposit of gas of commercial proportions there? Whether it looks like some place else in California, or whether it has an anticline formation like some other place might be a reason the witness might give for some conclusion he might come to, but it is not germane to the issues here, and I feel that you counsel may, if you think you might agree on the matter, I will dismiss the jury for a short period of time and conduct a pre-trial right now, and limit the issues so the jury won't have to sit here for days and listen to matters that are not really the issue. Maybe you and counsel can come to some agreement.

Mr. Bourquin: I said at the outset in the statement of the case that we did not feel the matter was not one for theorizing, and because we were here dealing with a gas property, we were dealing with a property that had been opened to 5000 feet. I think that is some reason why we should limit the investigation to this property without going into other property in Southern California, or some place else, and saying, "This looks like that." We don't have to do that. We should get to the bottom of the hole.

The Court: I think probably you would agree that the [488] witness who is on the stand and who made an examination will have come to a conclusion that it was a field that warranted——

(Testimony of Byron B. Norris.)

Mr. Bourquin: Exploration.

The Court: Exploration. That is about all that this testimony amounts to. I suppose the Government would concede that.

Mr. Bourquin: Yes, your Honor.

The Court: Therefore, the only question involved is, What did they find? What is the evidence as to what is there? You, of course, may produce the opinion of experts as to that.

Mr. Scampini: I desire for the purpose of the record to again explain the point I am driving at, namely, that the question of reasonable probability of commercial discovery at the lower depth which was penetrated on or about November 27, 1944, but as the evidence will disclose, and should your Honor permit the evidence to come in as to the geology of that structure and the geology of a structure can only be explained to the jury by an expert who has studied the structure——

The Court: I am not denying you that right. All this jury needs to know is what does the expert say about this structure?

Mr. Scampini: I was just coming to that.

The Court: It does not help the jury to know what the geology is all over California. What has he got to say about this particular structure?

Mr. Scampini: I am not going to ask the witness for anything about the geology of California. This morning he drew an outline of an anticline and during the noon recess it was pointed out that other anticlines are all shown in the official map,

(Testimony of Byron B. Norris.)

which is one of the exhibits in evidence. I was only going to ask him to explain for the benefit of the jury what an anticline, monocline, and a trap——

The Court: Well, he has answered that.

Mr. Bourquin: He just asked the witness to point somewhere as to the geology down in Kern County. It seems to me if there is any purpose going through the other sections of California we might as well open it up for Wyoming, too.

Mr. Scampini: It might be proper to do that.

The Court: I don't think the court should allow the inquiry to go that far afield. Anything that is pertinent to this particular property the witness may testify. As I say, we will take a recess in the case unless counsel can come to some agreement, because I don't think the inquiry should be broadened out to that extent here. How far are you willing to stipulate as to the general geological facts here? I suppose you have taken it up with some experts of your own?

Mr. Bourquin: Yes, we have, your Honor. In discussing this matter—Now, I don't know that I quite understand the contention of counsel on the matter, but if he will state the position he seeks to establish here I think maybe we can agree [490] to it.

The Court: Would counsel prefer to have the jury excused while that is being done?

Mr. Scampini: I don't think it is necessary. I propose to prove by the witness and another expert,

(Testimony of Byron B. Norris.)

Mr. John del Eau, who made a geological study of these matters, that an anticline of ample proportion exists on the property of Cal Bay Corporation, and Joseph Faria, Jr., in so far as the leases are concerned; that the anticline is a closed anticline, closed by the dip on the west, closed on the north-west, showing just where that dip is, closed on the southeast end by another dip called the Bailey dip, and thereby the anticline is a closed structure. I thereafter propose to prove that every formation which is very productive of oil or gas in commercial quantities in other fields of California immediately surrounding and in the vicinity of this field, everything found that are visible to the naked eye on the structure is there and there is ample drainage surrounding the structure, and we have the necessary source for the production of oil or gas, the necessary trap for the accumulation of oil or gas, and that he made a recommendation for the location for the well which thereafter was drilled to 4972 feet and penetrated the Martinez sand.

The Court: Well, I think that is proper. Maybe you can get agreement as to these geological factors, but the only question in this case was, granting all those things, is there [491] any issue, and that is your duty, you are carrying forward, is there any evidence to show that there exists a structure over here at this particular place?

Mr. Scampini: I am coming to that.

The Court: I am speaking perhaps a little outside the record. There are, of course, many struc-

(Testimony of Byron B. Norris.)

tures of the kind you speak of where there is gas and oil contained, but the only question you have is whether or not in this case there is evidence to indicate whether or not there was gas in commercial quantities.

Mr. Scampini: I desire to address your Honor on that point. Your Honor will recall the evidence that when we penetrated the Martinez sand at 4972 feet we penetrated it three to five feet, according to the testimony of Mr. May, and in coming out of the hole for the purpose of taking a core the pipe got stuck, and two days later the well blew in and the pipe——

Mr. Bourquin: Blew out.

Mr. Scampini: Blew out. The casing collapsed and right then and there the Navy said, "Get out of this property," and they prevented us from subjecting that sand to a test for——

The Court: That is the very issue you are entitled to go into. What is the opinion of the expert you have as to what those facts indicate as to the presence of gas in commercial quantities? You will have full opportunity to do that. [492]

Mr. Scampini: And that is what I am laying the foundation for his opinion which he will express at the conclusion of his testimony. Furthermore, this witness was on the premises, he was the supervisor in charge, the engineer in charge of the drilling of this well. He knows what was discovered in that well.

Mr. Bourquin: We don't have any objection to

(Testimony of Byron B. Norris.)

them going into all the facts and the character of the property here, and in that particular area, but we are not in a position to litigate with these people on the merits of structures down in Kern County, or Long Beach.

Mr. Scampini: I don't propose to go to Long Beach for my proof. I am trying to illustrate to the jury what an anticline or a monocline looks like, or a trap.

Mr. Bourquin: Well, you just looked at it at the board over there.

Mr. Scampini: I ask leave for permission to conduct the examination along the lines I have outlined.

The Court: I think it takes too long. I think you should confine your proof to a description by the witness of what the physical facts are at the property, and what his opinion concerning that is. That is all. I don't think it is necessary for counsel, in the examination, to inform the court and jury as to all these extraneous matters. I think all you have to do is to ask the witness to describe the geologic structure [493] at the property, what he found there, what his opinion is. That can be done in ten minutes. I have seen it done in dozens of cases. In pursuance of my power to supervise the case, I will do so along the limits of examination just referred to.

Q. (By Mr. Scampini): Upon the conclusion of your investigation did you form any opinion as to whether or not the structure located by you on

(Testimony of Byron B. Norris.)

Cal Bay Corporation property had reasonable possibilities of containing therein oil or gas in commercial quantity? A. Yes.

Q. What did you recommend to Cal Bay Corporation to be done?

A. I recommended that a test well be put down to produce this oil and gas.

Q. In reaching that conclusion did you investigate the possible drainage area surrounding this structure? A. I did.

Q. What effect or what weight does the possible drainage area bear in relation to your conclusion or your recommendation?

A. In order to have a commercial field of oil and gas there must be an area of substantial size that can drain into this structure. I think perhaps I can best illustrate it on the map, here. We will take this, confine ourselves to this little area right here.

Q. What map are you referring to?

A. This is——

Q. Defendants' Exhibit 10.

A. Yes. On the south, here, they have this fault, and that limits the drainage in that area. Drainage was toward this anticline. On the north, or northeast, you have for miles, several miles on across here, I would say eight or ten miles, this whole area you drain up into this area. The dips in this direction are very regular as far as it can be observed, on out across and under the bay. I

(Testimony of Byron B. Norris.)

think in this case here it is safe to say they have several square miles, that would be reasonable.

Q. To drain into this area. To what area are you referring when you say "this area"?

A. The area bounded on the map, the properties held by the Cal Bay Corporation.

Q. Did you have anything to do with what was done with respect to fixing the location for drilling a well?

A. Yes. That was one of the first——

The Court: May I interrupt again? I am not attempting to cut you off as to having this particular witness give the geological factors with respect to this property that he took into account in coming to his conclusion. You can ask him any question along that line you wish. All that I was cutting you off from doing was wandering into a long geographical history. The witness can state his opinion of the geological situation in this area. I think the witness understands the court. I am going to just interrupt again and ask you what were the geological factors that you took into account at your examination of this property that led you to decide that you would advise these people to drill a well? A. All right. [495]

The Court: After all, he made rather an unlimited examination.

The Witness: The first thing was to determine the nature and extent of the anticline. This was determined by meeting the various dips. I tried to show them all on this map. They run from 20 to 30 degrees, dipping this way, north.

(Testimony of Byron B. Norris.)

Mr. Scampini: "This way" is north?

A. And this way to the south. Once having determined this anticline, then the next thing to determine was where the best to drill was for the location of the well. Not knowing that, I checked the area.

Q. What area are you referring to?

A. This area, right here, the axis of the structure from the Kirker Pass Road on to Bailey Pass Road, and on over to Willow Pass. This area I discarded for the reason I thought it was faulted, that area——

Q. Which area?

A. The area between Kirker Pass and Bailey Road, where is included the Kellar property.

Mr. Bourquin: Is that property in this area?

Mr. Scampini: No, it is not.

Mr. Bourquin: I submit the witness is not answering the question. He was asked how he determined this property had possibilities. He is indicating that he went out and made a study of some other property entirely. I thought he said he was employed to make a study of this property.

The Witness: May I explain that, your Honor?

The Court: Yes.

The Witness: I was informed at that time that Mr. Faria had leases clear on through to this point (indicating). I was retained to look the whole thing over and select the better proposition. I am sorry I mentioned that, the name of that property, it happened to be a large parcel there, but getting back to this, I determined that the best spot for a well

(Testimony of Byron B. Norris.)

was the location shown in the map. In determining that I took into consideration the position of the anticline and its relation to this fault, the anticline coming up this way, and determined the point on the property, the highest point that would be safe to drill in order not to contact that fault. In making a selection where you are up against a fault, it is necessary to make some study to keep back from the fault so it won't be contacted. I made a location based on my studies there, and from my original work, and so on.

Q. Have you given us all the factors that you took into consideration in reaching your conclusion to make your recommendation? A. No.

Q. Give us the balance.

A. The conclusion that I came to were based on a study of the production in various fields, like Rio Vista and Tracy. At that time there was not a great deal of development in this country, but there was some information. I also studied "Geology of California," by Reid, which is a good section through this territory. The purpose of this was to determine [497] the formations we would likely contact at a reasonable depth. We could expect to produce gas or oil. In doing that I found that we should start on the eocene. The eocene is productive in neighboring gas fields. Then we would expect the cretaceous for the reason it would lie right here below it. I might say that this section through here is what we call a normal section. Then the age is considered, and necessarily with the commencement here as we go down it becomes older as far as the age of the formations are concerned.

(Testimony of Byron B. Norris.)

Q. (By Mr. Scampini): Mr. Norris, if I may interrupt, when you say "this" and "this" and "this," the record does not indicate to what you are referring.

A. Therefore I should say you start up here at the terrace deposits, this level (indicating), then the miocene, then the oligocene, upper eocene, lower eocene, upper cretaceous and lower cretaceous.

Q. Would you normally expect to encounter those formations in the course of drilling the well?

A. Yes. I determined that as far as I was able to determine for the purpose of making the contact I believed at about 5000 feet.

Q. Following your recommendation to Cal-Bay Corporation at that time, what was done about it?

A. Well, as far as the location was concerned they immediately started work there building roads and grading out with bulldozers the location. I know that because a few days later I came back to check the area. They were at work there and using a [498] bulldozer they pushed off the side of the hill so we could get the location on the very top of the structure. As far as the report was concerned it was for two purposes; first, to pick a location for development of the property, and, second, to file with the State Division of Corporations, with the application to sell securities.

Q. You have used the word "dips." Will you please explain to us what dips are in geology?

A. Dips are a measurement in degrees from the horizontal. I have placed here the marks to indicate dips.

(Testimony of Byron B. Norris.)

Mr. Bourquin: Will you point to where you are referring so we will have it in the record, what place on the map?

A. Well, the dip right above the location, there, in section 21, the northwest quarter, I have indicated there a dip with an arrow pointing in the direction in which it is dipped. How that is accomplished, if you take a Brunton compass to measure, it is kind of a level, measure the dip away from the horizontal and by checking here around the structure, you get what we call the general regional dip of that particular area.

Mr. Scampini: What bearings have dips on the development if you have an anticline?

A. Well, dips in themselves indicate—If you come up this way your dips would come this way, and then when they start the other way then you know you have reached the crest of the anticline.

Q. On one side of an anticline the dips will point in one direction [499] to the top of the crest and on the other side they point in the opposite direction?

A. Yes.

Q. What were your duties in connection with the drilling of the well, what did you have to do with it?

A. My work was, my duty was in taking the cores and recommending the various tests, and, in general, the technical supervision of the drilling operation.

Q. In the course of drilling the well, did you visit the well?

A. Yes.

(Testimony of Byron B. Norris.)

Q. How often would you say you were there?

A. I was there at the well, I was there considerably through 1943.

Q. In the course of drilling the well, were any cores obtained from the well? A. Yes.

Q. Who examined them?

A. I examined them and I also recommended that they be checked by a micro-paleontologist.

Q. Was that done? A. Yes.

Q. What was the purpose of examining the cores?

A. Well, there are several purposes of examining cores. They indicate, of course, the formation you are going through, and also the character and dip of it. In other words, your sand or shale or whether digging—dipping sharply or on the flat, and by submitting these to a micro-paleontologist he is able to determine by looking at the clay, for example, the age of the particular formation. That is one of the tools we use in drilling, because, for instance, we know it is eocene at the surface. We [500] have cause to believe some drainage there on the Domengine formation, which is the producing formation in this neighboring fields, and by making a systematic analysis of those cores we were able to estimate approximately where that would be.

Q. How is a core taken?

A. A core is taken by a special bit which cuts right around a circular location and then what we call a catcher is used to grasp that and bring it up.

(Testimony of Byron B. Norris.)

For instance, if you drilled out or around that board you would have a round section of that board (indicating). [500-a]

Q. In the course of drilling the well, will you please state what, if anything, you observed in the nature of oil and gas showings during the year 1943?

A. Well, we had minor gas showings, I would say, from twelve hundred feet down, but our big showing came at 4,268.

Q. At what part of the year did that show?

A. I believe it was either September or October. It was the fall of the year.

Q. How did it manifest itself?

A. By gas coming up with the mud and breaking out in the ditch.

Q. Do you know or have you formed any opinion as a result of the examination of the cores in what formation the first showing of gas manifested itself?

A. I believe it was in the Domengine formation.

Q. At what depth did you encounter the Domengine formation in this well?

A. If I may refer to my notes here, at 3,820.

Q. Is the Domengine formation productive of gas in commercial quantities in the fields immediately surrounding the Cal-Bay property?

A. Yes, sir.

Q. What fields?

A. The Rio Vista field is the largest in that area.

Q. What thickness do you normally expect in the Domengine formation?

(Testimony of Byron B. Norris.)

A. Well, it varies from, I would say, 300 to 600 feet.

Q. When this showing of gas became noticeable, what did you [501] recommend be done?

A. The first thing was to kill the well so we would be able to get out of the well with the drill pipe.

Mr. Bourquin: I object to recommendations, your Honor, as something having no relevancy or materiality. He can testify to what was done and what he saw.

Q. (By Mr. Scampini): What did you do or what was done after the first showing of gas became evident?

A. It was necessary to kill that gas in order to remove the drill pipe.

Q. What processes were followed to kill the gas?

A. The new mud was added and also weight material, baroid.

Q. After that was done, what followed, or what was the next thing?

A. By circulating their fluid we were able to get the well under control, so we felt safe to come out with the drill pipe.

Q. After the drill pipe came out, what did you do next?

A. We made various tests.

Q. What tests were made?

A. We ran a schlumberger. We ran formation tests. We also ran a temperature test.

The Court: I notice the engineers pronounce that word properly. It is schlumberger, not schlumberger.

(Testimony of Byron B. Norris.)

Mr. Scampini: I show you here what appears to be a schlumberger and I ask you to look at it and state whether or not you recognize it and what it is?

A. This is a schlumberger of Cal-Bay Corporation, Pittsburg area, Faria [502] No. 1 Well.

Q. How many schlumbergers did you cause to be taken in this well?

A. Three schlumbergers.

Q. To what depth in toto?

A. The first one was 3,568, the second 4,277, and the third 4,374.

Q. What is the purpose of taking a schlumberger test?

A. The purpose of taking a schlumberger test is to make what we call an electric log of the well. That is based upon the resistance of the various formations to an electrode lowered in the well.

Q. What does the schlumberger reflect to you as a geologist and petroleum engineer?

A. Briefly, it indicates the formation to some extent where a comparison can be made with a known formation.

Q. After you ran the schlumberger, did you compare the schlumberger with the schlumbergers of other wells drilled in neighboring fields?

A. We did, that is, not right in that vicinity, but we could compare it, of course, with fields away. It was compared with the Keller well of the Standard when that well was drilled.

Q. Was it compared with any of the wells drilled at Rio Vista or the McDonald Island fields?

A. Yes.

(Testimony of Byron B. Norris.)

Q. Will you please state or indicate on the schlumberger the sand or formation from which the first showing of gas became evident?

A. Yes, I can. [503]

Q. At what depth does it show?

A. The first showing was at 4,268.

Q. (By Mr. Bourquin): Does the schlumberger show that?

A. It indicates a sandy formation at that depth.

Q. Does it show any gas? A. No.

Mr. Bourquin: I just want to keep that clear, your Honor.

Q. (By Mr. Scampini): Are there any indications in the schlumberger from which you can determine whether or not gas or oil is obtained in a formation reflected on the schlumberger?

A. Yes, there is, where you have a schlumberger that you can compare with known areas. That is based, of course, on the fact that oil is very highly resistant and salt water is very conductive. In the case of a wildcat well where you do not have anything to compare it with, it is a little bit more difficult.

Q. After you made the three schlumbergers, were you able to determine the formation from which the gas was coming? A. Yes.

Q. What was that formation?

A. I might say that that was a combination of methods. In the first cores we took and analyzed, we located the top of two well-known or the top of a well-known shale. I could hold that up to illus-

(Testimony of Byron B. Norris.)

trate it. You see this line here goes pretty steady? That is what we call the top of the Nortonville shale. Once we were in that [504] we had reason to believe we would tap the Domengine at no great distance. We were able to determine that point from the micropaleontologist, at this point also. Then, knowing we were in that formation, we were able to tell which formation it was producing from, because the reading the depth off here——

Q. (By Mr. Bourquin): Does the schlumberger reveal the formation you were in?

A. It reveals the character of the formation, yes, not the name of it.

Mr. Bourquin: In view of the fact that this is being employed, we have no objection to it going in evidence. It has already been employed, your Honor. I was waiting for him to offer it to clear it up.

Q. Are the notations on the schlumberger in red ink of the levels of the various beds—are those made by the Schlumberger people in their tests or were they added by you?

A. They were added by me on the data from the micro-paleontologist.

Q. (By Mr. Scampini): And the names of the formations which you have indicated on the schlumberger are the names which you have given, based upon the studies you have made of the cores of this well and after correlating the schlumberger with surrounding wells, is that right?

A. That is right.

(Testimony of Byron B. Norris.)

Mr. Scampini: I offer that schlumberger as our exhibit next in order, your Honor.

Mr. Bourquin: No objection, your Honor, with the understanding [505] as stated, that the red-lettered descriptive matter on there is not the schlumberger's report, but is what Mr. Norris has put on there to inform himself.

(The document in question was thereupon received in evidence and marked Defendant's Exhibit 28.)

Q. (By Mr. Scampini): I now show you a document, Mr. Norris, or a graph. I ask you to look at it and tell us what this graph represents.

A. That is a temperature survey of the Cal-Bay Corporation Faria No. 1 Well.

Q. Did you make that temperature survey or cause it to be made?

A. It was made by the Schlumberger people.

Q. Upon what principle does the temperature survey work?

A. The temperature survey works on the principle that as you go to depth in a well the temperature rises, generally on a gradual state. In this instance what we were trying to determine was the point of entry of gas. In other words, you can see this line goes pretty straight down to this point, and then at this point is the bottom of the gas entry, the theory being that as gas comes into a hole it will cool that hole and thereby cause this line to deviate from the normal direction.

(Testimony of Byron B. Norris.)

Q. After making the schlumberger and the temperature survey, what did you do in respect to testing the sands?

A. We caused some formation tests to be made.

Q. By whom?

A. The Johnston Formation Tester. [506]

Mr. Scampini: Before continuing, I offer in evidence as our exhibit next in order the temperature survey, if it please your Honor.

Mr. Bourquin: May I ask some questions concerning that before it is submitted?

Q. Is that the handiwork of the Schlumberger people or is that someone else's? Is anything imposed upon their report and data?

A. I am not sure whether that coloring was done by the Schlumberger people or not. It may have been or it may not have been. All the dark lines on there are——

Q. All the dark lines are the Schlumberger report?
A. Yes.

Q. Is the graphing off the dark lines and colored in—is that the Schlumberger report, or has that been imposed upon their report by some other person?

A. That I couldn't say. There were several conferences with them at that time. Whether they put that on there or whether it was put on by some engineer, I do not know. I didn't put it on there.

Mr. Bourquin: Until we have had an opportunity to understand the purpose of this, then, your Honor, I will ask that its entry in evidence be de-

(Testimony of Byron B. Norris.)

layed for want of foundation. I think when I have had an opportunity to see what it means I can withdraw any objection.

Mr. Scampini: I will ask that it be marked for identification, your Honor. [507]

(The document in question was thereupon marked Defendants' Exhibit 29 for Identification.)

Q. (By Mr. Scampini): Based upon your study of the schlumberger and the temperature survey, what conclusions did you draw with respect to testing the sands, Mr. Norris?

A. Did he raise an objection?

Mr. Bourquin: No, your Honor. I thought it was coming into the same matter that he answered to your Honor, but I will withdraw the objection.

The Witness: We determined the only way to test that would be to set casing.

Q. (By Mr. Scampini): Was casing set in this well? A. It was.

Q. To what depth? A. 4,343.

Mr. Bourquin: Your Honor, this is matter that has been gone into. It was put in evidence. There is no dispute about it. The casing was set. It has been detailed by at least one witness. Why take the time of this Court to set this casing again? I think we have set it twice before. I am going to object to going into this detail as repetitious, as matter already covered.

(Testimony of Byron B. Norris.)

The Court: I think it is repetitious, Mr. Scampini. Can't you get right at the question?

Q. (By Mr. Scampini): After the casing was set and Johnston Formation tests were made, did you study the results of the [508] Johnston Formation tests? A. Yes.

Q. What conclusions did you draw from them?

A. I drew the conclusion that we had a high pressure gas down there. That was based on the bottom-hole pressure as registered by the tests.

Q. Was any other conclusion drawn by you from the results of the Johnston formation tests, the schlumberger and the temperature survey?

A. Yes, I observed most of these tests and in my opinion, gas was produced in good quantity.

Q. I take it that that was some time in the fall of 1943, is that right? A. Yes.

Q. What happened after the tests of the Johnston formation people were made?

A. I believe it was October 27 we made the last tests. At that time the company shut down the operation for five or six months in order to raise more funds.

Mr. Bourquin: I think the company should testify to that, your Honor. I ask that that last go out as not responsive.

The Court: That may go out, "They shut down after the last test."

Q. (By Mr. Scampini): Based upon your study of this structure and the geology of that territory, did you form any opinion as to where you would

(Testimony of Byron B. Norris.)

normally expect to find the next productive sand below the sand known as the Domengine formation [509] in the Cal-Bay well?

A. Yes, I did.

Q. What is your opinion or conclusion in that respect?

A. My opinion in that respect was that the next sand we should contact would be what is known as the McDonald Island sand in the Martinez formation.

Q. At what approximate depth would you normally expect to find the McDonald Island Martinez formation in the Cal-Bay well, assuming a normal sequence of geological formations?

A. Well, that is quite an interval across there and there might be a considerable variance in that. I had estimated 500 feet below the depth of the old hole.

Q. What was the depth of the old hole?

A. I believe that was 4,375, something like that.

Q. In the meantime, had any developments taken place in this immediate vicinity in respect to discovery of new gas fields at or about this time?

A. Yes, above the Honker Bay—

Mr. Bourquin: Your Honor, I am going to object to this as irrelevant and immaterial.

The Court: Yes, I will sustain the objection. The witness can state what factors he took into account.

Q. (By Mr. Scampini): Did you form any opinion as to whether or not the Martinez sand, if

(Testimony of Byron B. Norris.)

encountered in the Cal-Bay well, would be productive of natural gas in commercial quantities, based upon your study of the situation and the geology of that structure? A. I did. [510]

Q. What factors did you take into consideration in forming that opinion?

A. I took into consideration the fact that the McDonald Island sand seemed to have considerable dispersal. It is found in the Rio Vista field and also in the McDonald Island field, which are just up the river from this location. After we tested the Domengine formation we found that to be somewhat impervious. It would not give up gas at the speed; it would up steady amounts, but not in sufficient quantities. So in drilling deeper, the objective I had was to contact a sand of sufficient porosity that it would give up gas, and I recommended that they drill and core until such sand was contacted, for the reason that I felt that the presence of high pressure gas of good quality had been demonstrated by the tests we had made, and that it would only be necessary to contact a good sand body to have large production.

Q. And of course the well was drilled ahead, is that right? A. It was.

Q. In the year 1944? A. Yes.

Q. Did you visit the well at any time during the period that it was drilling in 1944? A. I did.

Q. Did you examine the cores that were taken from the well during that period? A. Yes.

(Testimony of Byron B. Norris.)

Q. On or about November 27, 1944, do you know at what depth the drill or bit had penetrated?

A. I was not present [511] at the well at that time. I know from the record, yes.

Q. Have you checked the log in that respect?

A. I have.

Q. Do you know of your own knowledge since checking? A. Yes.

Q. What is the depth? A. 4,975.

Mr. Bourquin: May I ask this question, counsel: Did you say November 27?

Mr. Scampini: 1944.

Q. (By Mr. Bourquin): Wasn't the depth the same on November 25—wasn't that the date the pipe stuck?

Mr. Scampini: That is correct, Counsel, November 25.

Q. When did you next see the well with respect to the period of time between November 25, 1944, and, say, December 1, 1944?

A. To the best of my recollection, it was about the third or fourth of January I came up to complete the log. They were on a fishing job and abandoning the hole.

Q. Did you study the log of the drilling of this well during that period of time? A. Yes.

Q. What else did you do to ascertain what formation the well had penetrated at the depth of 4,795 feet?

A. We took some cores—I believe the last one was 4,823 to 4,843—and submitted them for analysis.

(Testimony of Byron B. Norris.)

The core we submitted from 4,823 to 4,843, which was the last one analyzed, did not have sufficient fossils to definitely identify it. However, Mr. Goodkuff, who is the micro-paleontologist we [512] submitted it to, noted that in appearance at least it apparently was maganus.

Mr. Mourquin: Is this witness going to testify to Mr. Goodkuff's findings or his own?

The Court: Yes, so that would be objectionable. Sustained.

Q. (By Mr. Seampini): Have you formed any opinion, based upon your studies and observation as to what formation the body of the hole of the Faria well was located on November 25, 1944?

A. I believe it had just topped the McDonald Island sand in the Martinez formation.

Q. Did you investigate the circumstances under which the blowout of the well occurred?

A. Yes, I was up here shortly after and I talked it over with the boys, yes.

Q. Have you formed any opinion, based upon your knowledge and experience and the studies that you made of the structure and in the course of drilling the well, as to whether or not the Faria well had penetrated a commercially productive sand of natural gas at 4,975? A. I have.

Q. What sand do you believe had been penetrated at this depth?

A. I believe that is the McDonald Island sand, what is known as that in this country.

(Testimony of Byron B. Norris.)

Q. Would you, with the knowledge that you possessed at the time and the information which was available to you, recommend that the well be completed at that depth and put on production?

Mr. Bourquin: I object to that as irrelevant and [513] immaterial, your Honor, whether he would recommend it or not.

The Court: That is objectionable. I sustain the objection.

Q. (By Mr. Scampini): Were any tests made of this formation, such as the schlumberger or the Johnston formation test?

A. No, it would be impossible to make any under the conditions.

Q. Why could not any of these tests have been made?

A. Well, the drill pipe was stuck in your casing. It would be impossible to reach the bottom of the hole to make any tests.

Q. What would have had to be done in order to make such a test or any of these tests?

A. What I would have done in that instance would have been to take some cores, which was exactly what they expected to do; in other words, a core of the formation, and possibly run an electric log and then determine the type of test we could give it, and probably set the casing.

Q. Before any cores could be made or taken or before any tests could be made, what would have to be done in the well?

(Testimony of Byron B. Norris.)

A. Well, either remove that drill pipe that is in there or else cut a new window and redrill to that depth.

Q. Now, a whipstock had already been set, of course, once before in this well, is that right? Have you formed any opinion as to what caused the pipe to be stuck in the well on November [514] 29 or 27 of 1944?

Mr. Bourquin: Is that a subject of expert testimony or is that a matter that, whatever its significance, is a question that the Jury may determine from the facts? The witness said he was not there much of this time.

The Court: Yes, I think the objection would be good to that, Mr. Scampini, unless you could state all of the factors upon which the witness might base an opinion.

Q. (By Mr. Scampini): Assuming, Mr. Norris, that the bit had penetrated the Martinez sand at 4,975 feet, and while the bit was being taken out of the hole, the drill pipe was coming out of the hole, it got stuck at about two stands from the bottom, and oil was spotted in the well for the purpose of loosening the pipe, namely, about eight barrels; circulation continued without interruption from the time the pipe got stuck, and immediately following or about eight hours following the spotting of the oil, and about eleven a.m. on November 29, the well blows out and continues to blow for a period of two hours mud, water, oil and gas, and then it is brought under control by the application of pressure to the

(Testimony of Byron B. Norris.)

gas control heads, and the building up of the weight of the mud to a weight of 115 pounds: based upon those facts, have you formed any opinion as to what caused or what could cause a casing to collapse at or about where the window had been set for the first whipstock? [515]

Mr. Bourquin: If your Honor please, I expected that question was going to be one directed to the witness's opinion as to whether they have found anything or not, but I still want to object to asking this witness's opinion as to what caused the casing to collapse on these grounds:

The Court: I do not think you need to go into any detail on that. I think the objection is good. It is purely a speculative field. It is something no one could give an expert opinion unless he was there and saw it done. It may have been one of the workmen mishandled the matter. I do not think that is the subject of expert testimony. The facts speak for themselves and that is a matter for the Jury to determine.

I thought also, Mr. Scampini, that you were pursuing in this question the matter of getting the opinion of the witness as to the nature of the sand or something of that sort.

Q. (By Mr. Scampini): In the course of drilling the Faria well, did you notice or observe whether or not the geological formations were found in normal sequence?

A. Yes, they were found in normal sequence.

(Testimony of Byron B. Norris.)

Q. Based upon your experience and the knowledge that you acquired in the course of drilling the well and your study of the structure, would you have recommended the setting of casing down to the 4,975 foot level and the testing of that stand? [516]

Mr. Bourquin: If he wants to know whether it was feasible, whether the circumstances warranted it——

The Court: The witness has already testified, Mr. Scampini, that is what he would have done. He would have made tests down there. He has already stated that in his opinion the bottom of the well was at that point in the sand he has described.

Q. (By Mr. Scampini): Did you have any opportunity, or was any opportunity given to you for the purpose of making an adequate test of the sand encountered at 4,975 feet? A. No.

Mr. Scampini: That will be all. You may take the witness.

The Court: Do you wish to take the recess at this time or cross-examine?

Mr. Bourquin: I would like to have the recess.

The Court: We will take the afternoon recess at this time, ladies and gentlemen. Please bear in mind the admonition I have given you.

(Recess.) [517]

Mr. Scampini: I desire to ask Mr. Norris one or two more questions, your Honor.

The Court: Very well.

(Testimony of Byron B. Norris.)

Q. (By Mr. Scampini): Mr. Norris, based upon your knowledge of this structure, the experience that you have had in the business, and in your profession, and the results encountered in the course of drilling the Faria well from the beginning down to November 29, 1944, and your general study of the whole situation, and the information acquired by you, have you formed any opinion as to whether or not a commercial discovery of natural gas was made in the Faria well on the property of Cal-Bay Corporation at the 4975 depth of the well?

A. Yes.

Q. What is your opinion?

A. My opinion is based on the work that was done over there several months before that.

Q. Please state what your opinion is in respect to whether or not a commercial discovery of natural gas was made.

A. Yes; I think a commercial discovery was made.

Q. What do you mean by "commercial discovery of natural gas?"

A. I mean gas in sufficient quantity to be salable at a profit.

Q. Upon what factors or considerations do you base your opinion or conclusion?

A. I based that opinion on the study of the well up to that time, and by that I mean we drilled and cored and tested the Domengine formation. In fact, we found high-pressure gas, bottom hole pressure of 2125 pounds, which is similar to gas producing

(Testimony of Byron B. Norris.)

fields in the neighborhood. We also tested that [518] gas and found it of good commercial quality, the methane content was 94.5 and the methane content of Rio Vista gas is 94.79, so that is just a fraction of one per cent difference.

So we get in the Domengine, which shows gas of good quality and pressure normal to the area. It was my belief then, and still is, that in drilling on down we would contact sands that were more porous and would give us gas in larger quantities. I felt that a closed structure had been demonstrated with the high pressure we found in the Domengine formation, everything pointed to that we would probably find this sand at approximately the depth at which we did find it. That is the reason I based my opinion that that is—that it is the McDonald Island sand. The pressure encountered, when you make a study of the heavy weight of mud used, that indicates to me that there was high pressure, and there must have been considerable volume. We had some experience in that line on other places. We had a high pressure and a steady continuous pressure, but not sufficient in volume to raise that weight of mud that was raised in the last blow-out. In my experience any well that would blow out with 110-pound mud has a volume down below such pressure.

Q. Have you formed any opinion as to the volume of gas that would be produced by the Faria well were it completed in the Martinez sand located at 4975 feet?

(Testimony of Byron B. Norris.)

A. No, I cannot say I have, because without an actual test it could not be demonstrated. [519] The blow-out, itself, is indicative, that is the only indicator we have of the volume.

Q. Have you any knowledge as to what the volume or capacity or production of wells drilled on McDonald Island and bottomed in the Martinez sand, is? A. This may vary——

Mr. Bourquin: We object to that as immaterial and irrelevant, and presupposes something.

The Court: I will sustain the objection. If the witness took some factors of that kind into account in forming an opinion as to how much volume could be produced here he may so testify.

Q. (By Mr. Scampini): In arriving at your opinion to the effect that commercial discovery of natural gas was made in the Faria well at 4975 feet, did you take into consideration the productive capacity of wells drilled on McDonald Island and bottomed in the Martinez sand?

A. Yes, I did, not only McDonald Island but also Rio Vista. Both areas. In other words, I felt then that we had correlated them to a point; in other words, that now we have contacted one producing sand in that area. That is my belief.

Q. Have you any knowledge as to productive capacity of some of the wells drilled on McDonald Island and bottomed in the Martinez sand?

A. Yes.

Q. What is the productive capacity of some of those wells with respect to which you have knowledge? [520]

(Testimony of Byron B. Norris.)

Mr. Bourquin: I object to that as immaterial and irrelevant, and speculative.

The Court: Sustain the objection.

Mr. Scampini: You may take the witness.

Cross-Examination

By Mr. Bourquin:

Q. Mr. Norris, you testified, did you, that before you became a consulting geologist you had been connected with the Corporation Commission of the State of California?

A. Yes, that is right.

Q. And you had offices at Los Angeles with that Commission? A. Yes.

Q. At which time there was an interval of, I think you said, from 1931 to 1935?

A. Yes, that's right.

Q. It was your position there to receive and pass upon reports supporting applications for permission to sell securities in projecting explorations?

A. Yes, that's right.

Q. In this case you, personally, made the report to support each successful application of the Cal-Bay Corporation for permission to issue and sell stock, did you not?

A. Yes, that's right.

Q. Now, in connection, for a minute, with those reports, you testified on direct examination that when you went into this field for a week at one time and two days at another you explored the Faria property and you explored property quite some

(Testimony of Byron B. Norris.)

distance removed to the southeast, you said the Kellar property. [521]

A. That is correct.

Q. When you made your report to the Cal-Bay Corporation for the purpose of supporting this application to first issue and sell stock, didn't you report in that report that the project under study consisted of 603.72 acres of land?

A. Yes, I did. The report concerned only the Cal-Bay property. That survey I made at that time was for Mr. Faria to determine the proper location.

Q. In other words, when you rendered your report upon a study of the property only that was embraced in the Faria ownership, or under the Cal-Bay lease, did you not?

A. I believe I have some mention of the Kellar property and over as far as the Kirker Pass, to my recollection.

Q. Did you report upon 603.72 acres?

A. That concerns the Cal-Bay property, itself, yes.

Q. You believed you had some reference in there to the fact that this property was on a common structure with the Kellar property, is that true?

A. Yes. It is the same general anticline.

Q. Well, did you ever report that it was on a common structure with the Kellar property?

A. I believe I did.

Q. You have the knowledge that Standard Oil had sunk a well——

A. Yes.

(Testimony of Byron B. Norris.)

Q. It did afterwards sink a well?

A. Standard Oil Company Kellar No. 1 well.

Q. Would you be good enough so we could see this proposition——

A. The Kellar well is right on that map there.

Q. What I wanted you to do, this is the map that you had——

A. Yes.

Q. This is the defendants' exhibit——

A. The Contra Costa County Map.

Q. Map of Contra Costa County. Have you outlined on this map the properties contained in this case of this company?

A. Yes. It is contained in this heavy line.

Q. The property contained in this heavy line. Let's see if we can make that a little heavier now. Is it correct? Will you tell me, please, Mr. Norris, coming off through here I have drawn that above your line; is that correct?

A. Yes, I believe it is.

Q. That will present an irregular shape of the property as I have outlined it on this diagram?

A. Yes.

Q. While we are at the map, with reference to that structure that you have described here, you said you indicated the dips on it, have you?

A. Yes.

Q. Show me where you have made your indications on the map of those dips that you found?

A. All this (indicating).

Q. Let me mark those by the degrees that I see here, with an arrow mark. What is that?

(Testimony of Byron B. Norris.)

A. That is 25 degrees.

Q. 25 degrees and an arrow pointing north, is it?

A. Yes.

Q. That is one. That is in—I can't find the section here.

A. That is section 36. [523]

Q. I have it in here. You have also placed another arrow here with the figure 30 representing 30 degrees?

A. Yes.

Q. That is indicative of your dip there?

A. Yes.

Q. To the northeast?

A. Yes.

Q. The third one with an arrow and it says 20 for 20 degrees?

A. Yes.

Q. Also dip, indicating a dip to the northeast?

A. Yes.

Q. We come then to one with an arrow marked 30, 30 degrees, also a dip to the northeast?

A. Yes.

Q. I am moving northwest on the map. I have been moving northwest?

A. Yes.

Q. So we come to another arrow, 25 degrees, as we proceed northwest, and I have an arrow indicating a dip to the northeast.

A. Yes.

Q. A further arrow up here in the property marked Avila property with the arrow likewise indicating dip of 25 degrees northeast?

A. Yes.

Q. And the last one proceeding northwest on the map, an arrow in the Neustater property, with a notation 25 degrees indicating the dip to the northeast?

A. Yes.

Q. Let's go to the other side.

A. Just a minute.

(Testimony of Byron B. Norris.)

Q. To one in the Cal-Bay Corporation property that is marked Faria 80, with an arrow pointing approximately due north indicating a dip 25 degrees.

A. 25 degrees.

Q. By the way, this line that you are pointing at here marked [524] "anticline," was that a feature that was represented on this State map that you employed here? A. No.

Q. That is something that you have imposed upon the map, yourself?

A. Yes. All the geological data I put on, myself.

Q. You put on the lines, you put on the arrows that I indicated the dip indicated? A. Yes.

Q. The line you marked "anticline," you mean to represent what? A. The apex.

Q. The apex or the roof? A. Yes.

Q. What about the other side? Where do you indicate the dips on the other side?

A. This (indicating).

Q. Is this an arrow, here?

A. No. That is an arrow showing in this direction (indicating). That is commonly used to indicate an anticline.

Q. That is meant to give character to the whole anticline line? A. Yes.

Q. Let's outline that one in a circle so we won't mistake that. Show us where from your study you indicated a dip on this south side of your anticline line.

A. Here is one, here is one, here is one.

Q. Here is one at the most southeastern extent, the more southeastern length of the anticline line

(Testimony of Byron B. Norris.)

and south of it a large arrow pointing southwest 25 degrees. That was your observation or your conclusion? A. Yes. [525]

Q. And I will proceed again along the line northwesterly, and I come to the next arrow indicating you found there a dip to the southwest, arrow standing at 25 degrees, is that right? A. Yes.

Q. What section is that in?

A. That is in section 34, it would be.

Q. 34. Then as I proceed along the northwesterly parallel to the anticline line you have your next arrow pointing southwest, indicating you found the dip to the southwest marked 25 degrees; is that correct? A. Correct.

Q. What section is that in?

A. That would be in section 21.

Q. Section 21. Let us say that that indicates a line just southeast of the character arrow that we placed in the circle. A. Yes.

Q. Did you find any further indication of a dip?

A. I don't believe I did, because it would clutter up the map and, of course, any dips over here would simply make a blur on the map if I put them on.

Q. But these do represent the places where from your study on the property and all your studies you came to the geological conclusion that there were drips at a point in the direction or the degree you represent. A. Yes.

Q. While we are on the subject of that map, Mr. Norris, these colors are a little bit, they might be a little bit confusing to some. Suppose we turn back here. The colorings as you [526] have them on this

(Testimony of Byron B. Norris.)

map and then when—this is the map of Contra Costa County, the defendants' exhibit, those are the coloring in geographical areas moving from the river to Pittsburg southeast? A. Yes.

Q. The yellow at the top you said indicates that the property in that area exposed, what did you call it, stratas?

A. Terrace deposit. You will find them on the right.

Q. That matter was a matter of your study or was a matter on the map?

A. That is taken right off the State geological map for the area here.

Q. That is terrace deposits, silt from the river and so forth?

A. Yes. Well, no, it is more or less ground that is washed down from the higher hills. This is a very high range of hills.

Q. The next one, you said the red one represented what? A. Miocene.

Q. That extends over a ground area that you have shown here? A. Yes.

Q. I notice that some of it corners into the northeast quarter of the Alvarnez property contained in—— A. Yes.

Q. The extent you have shaded in red. Then you come to the yellow, it is yellow on the map, you said that represented what?

A. The upper eocene.

Q. That runs on the map right through the Faria and Cal-Bay Corporation? A. Yes.

Q. Then you come down to a darker one, here,

(Testimony of Byron B. Norris.)

it might be rusty [527] yellow, this one. That represents what?

A. That is valley fill. It is in this area here.

Q. Here you have shown what are the particular formations or strata or beds that are exposed on the surface of the ground?

A. That is right.

Q. In other words, going around in this area, a person on this property would encounter first your yellow, next your red, next your yellow brown, next your yellow rust color, and so on.

A. Well, yes, you would to this extent, you start in with formations you would expect to contact; in other words, you start with eocene, you will go down through cretaceous. If you start at miocene you go through miocene into eocene and on down to the depth of your well.

Q. You start in with red and you would expect to find the other formations which are here shown below on the map?

A. Yes, stratigraphically, they are.

Q. Stratigraphically. They range that way in age on there. A. Right. [528]

Q. You said something, Mr. Norris, about sealing off by faults. Have you shown that data on the maps, sealing off of this structure by faults?

A. Well, perhaps only so far as I show this anticline coming up against this fault, this red line being the fault.

Q. The red line you have indicated on the diagram and you have marked the fault?

A. Yes.

(Testimony of Byron B. Norris.)

Q. That is a line which runs across the Blume and the Williams, Jr., property and the McKeon property, and lie out west of your line?

A. That is right.

Q. In other words, what does that mean, that the supposed structure is there walled in by that fault? Is that what you mean?

A. At this point it is. Where this anticline comes up against it, this fault is almost a vertical fault. By that I mean it is almost straight up and down.

Q. Does it cross in the place you have shown it on the map?

A. It crosses, yes. It is very plainly road cut at about this point here on the Willow Pass Road.

Q. How is it on the rest of it as you have imposed it on the map where you have marked "fault?"

A. For the most part it is buried.

Q. Were you able to determine that it was in existence?

A. Yes, you can.

Q. In other words, do you mean that to say that along that line the supposed structure, to the north-east of it, is [529] walled off from the property southwest of that line? Is that what you mean to show?

A. No, that is not quite the right story. This being a fold here would need no wall in this particular part. In other words, you could have a fold over like this. The point of contact, where it comes up against the fault, is the place of seal.

Q. Let me get at that. From your study you have indicated to us that you came to the conclu-

(Testimony of Byron B. Norris.)

sion that there was a structure in the ground at this place which could be explored with an expectation of production? A. That is right.

Q. Can you outline to us on that diagram the limits of that structure, the surface limits of that structure?

A. I do not know as I could presume to do that at this time. I can outline, however, what I anticipated and what I stated in my report that from Bailey Road over to Willow Pass Road I believe that whole anticline will be productive. The extent to the right and left will be determined by development. It is a little premature to tell how big it will be at this time.

Q. Do you mean to say the only thing we can be certain of is the area lying immediately beneath your anticline?

A. No, I do not say that. I say that would be the top of that fold, and it was reasonable to assume that it will be productive in that vicinity. That is, that is the top of your structure. [530]

Q. From your analysis and study and your exploration, what did you conclude to be the limits of it here on top that would reach that structure?

A. I don't know as I follow you. On this end it is determined by the fault.

Q. (By Mr. Scampini): What end?

A. On the west end.

Q. (By Mr. Bourquin): It is determined by this fault that runs northeast and southwest?

A. Yes, sir, that is the determining boundary

(Testimony of Byron B. Norris.)

there. That fault is a wide fault, taking in most of this property here. Then you expect the area to be productive at least along the axis of this anticline.

Q. That would be a limited thing along that line?

A. I do not know. Several fields in California are several miles wide on a similar anticline.

Q. That is what we want, your opinion as a geologist. You are here expressing your conclusion as an opinion, is that right, Mr. Norris?

A. I think I get your idea. To the north and south of this anticline this walk would determine the southern boundary of any productive structure. In this direction it dips off in a regular degree out under the Bay. So in my opinion it would extend quite a distance in this direction.

Q. Let us take one side at a time. We can safely say, then, the limits of the supposed structure would be the fault line that you have drawn on the map running generally northeast [531] and southwest and lying to the southwest—no, running generally northwest and southeast and lying generally southwest of the anticline? A. Yes.

Q. If we could just fence it in there. What will we have to measure the limits to the north? Let us get the limits.

A. That can only be determined by development. The dip in that direction is normal, about twenty-five degrees, so you would expect—so far as I know,

(Testimony of Byron B. Norris.)

there is no physical limitation by reason of a fault or any break in this area.

Q. You are going to the opposite side of the anticline, but I want to get the northwesterly limit. Did you say it was at this point you have indicated on the fault? A. Yes.

Q. It is along the line here that the word "Percy" or "Perez" is?

A. Along the line of this Willow Pass Road.

Q. Let us mark it in so we can see it. Just below the Willow Pass Road. Have you a red crayon?

A. I have one.

Q. This is next to the Willow Pass Road. That would determine its northwesterly limit. Is that correct? A. Yes, I believe that is right.

Q. That is your opinion. Now, then, how about the southeasterly limits?

A. I believe that the Bailey Pass fault here, this red line, would be the southeasterly limits.

Q. The Bailey Pass fault, and you have drawn that in already, haven't you? A. Yes.

Q. And you have marked it "Fault" along the line? A. Yes. [532]

Q. That would be in your opinion the southeasterly limit, would it? A. Yes.

Q. So that we have got the limits on three sides. Now, what have we to indicate the closing limit on the fourth side, on the northeasterly side?

A. I do not believe you have any physical barrier there that would indicate it. Frankly, there is a possibility that this area and the Suisun Bay area

(Testimony of Byron B. Norris.)

may be all one gas field across here. The distance between Suisun and this is less than the distance across Rio Vista.

Q. You mean from here over to Suisun across the river the country is free from folds and faults, is that true?

A. So far as I know. It is under the river there, a lot of it, and masked by surface fill, but there is nothing to indicate that—and the development of Honker Bay and Suisun Bay indicates that it dips off in that direction at a fairly regular rate to me.

Q. Let me ask you, is there any data as to the absence of faults between your anticline line here and the northeast to the river?

A. Not that I know of.

Q. In other words, are we left in this position: You do not know of any fault in there and you have nothing upon which to come to a conclusion that there was no fault there?

A. Well, I have this, because I covered this area in field work. I discovered no fault there. [533]

Q. Is the country to the northeast here as it descends the hills and approaches the river, is it filled with alluvium deposit?

A. This area here marked in yellow is generally pretty rugged hills, through this area.

Q. Generally rugged hills without deposit?

A. Yes.

Q. What do we know about the structure when you get to the water line?

(Testimony of Byron B. Norris.)

A. To be frank, when an area is masked like that, you cannot know a great deal about it as far as faults are concerned. I was not able to discover anywhere, and so far as I know, nothing is published that indicates one there.

Q. Did you pursue your studies over here past the town of Nichols and into the little towns along the railroad in search of formations or geological indications?

A. Yes, I did. I had that in mind, to see if there was any possible break through there in order to determine the drainage area from that side.

Q. And you found no closure for this here, is that correct?

A. Why, certainly there is a closure. You have your normal dips in this direction coming up here—in other words, the flank of an anticline.

Q. What I am trying to gather from you, Mr. Norris, is have you any data upon which to say how far any supposed structure in this area would extend to the northeast, any data of any kind or character, yours or anybody else's that has been published as a result of examinations or analyses?

A. I do not know of any, no.

Q. While you are at the map we will cover these little incidents and get out of the way. Within the limits in this instance you put here on the map we would find on the southwest side of the anticline it would include the Faria property, some of the Williams property, it would include some of the Blume property, it would include John Faria's property, will it not?

(Testimony of Byron B. Norris.)

A. I wouldn't agree with that, because this fault, while it is shown as a line, is quite wide. It represents the edge of the hills here.

Q. Why did you put it over here if it belongs over there?

Q. Because that is where I believe the main fault is. That may not be just a line. It may be a half mile wide of broken area.

Q. Are you also in doubt about its northwesterly extent here? A. Not at all.

Q. So we can put John Faria in on the structure, can't we? A. No, sir.

Q. Is this John Faria's property (indicating)?

A. Yes.

Q. That is John Faria's property. He lies within the limits you have drawn. Do you want to draw them differently?

A. No, but in coming to this conclusion about that property I would not recommend any beyond about this point here for drilling, because this is all broken.

Q. Put your line in where you would not recommend any further. [535]

A. I will put in across here (indicating).

Q. Can you put it in heavier, please?

A. In other words, I do not believe you should go out of this that is indicated as eocene there, for the reason that there is faulting beyond that.

Q. Let us mark that line you have just introduced for the record in its northerly extent as N-1. It will not include all of John Faria's property. It

(Testimony of Byron B. Norris.)

will only include some of it, is that true? Or do you want to shut him out altogether?

A. I would not recommend the property, no.

Q. You said that is as far as you recommend it. Do you want to put your line in again?

A. No.

Q. You leave it out?

A. In other words, you can't draw a fine line and say the fault stops right here.

Q. We have asked you to draw it where in your opinion it does stop. Have you done that or do you want to do it again?

A. Well, I think——

Mr. Scampini: I do not hear you, Mr. Norris.

The Witness: I think that is perhaps a fair estimate of where the main faulting would take place. As a matter of fact, it may extend clear back to here.

Q. (By Mr. Scampini): Where is "here" on the map?

A. The west edge.

Q. (By Mr. Bourquin): Mary Faria and the Cal Bay property?

A. Approximately there (indicating). [536]

Q. Any possibility it would get over to this side?

A. That is exactly why I put the location right here, to be back enough from this fault so there would not be any chance of getting into it.

Q. (By Mr. Scampini): By location I assume you mean the location of the well, is that right?

A. Yes.

Mr. Bourquin: Take the stand again, will you, Mr. Norris?

(Testimony of Byron B. Norris.)

Q. You said that you were in pretty regular attendance at the well—and by the way, is that a wildecat?

A. It was when it started, yes. I do not think it is now.

Q. You were in pretty regular attendance at the well in 1943, is that true?

A. Yes, I was subject to call. That was after I got out of the Army.

Q. Did you come there regularly in 1943?

A. I was there quite a little bit, yes.

Q. How frequently?

A. Oh, I would say at least once a month, sometimes twice, and I would stay a week, maybe, at a time. It was during the times when I needed to be present.

Q. How much did you attend in 1944 when the exploration was resumed?

A. I was there for some time.

Q. Did you attend as regularly and as frequently as you did in 1943?

A. I don't believe I was there as much time in 1944 as I was in 1943, no. They were shut down a portion of that year.

Q. You were not at the well at the time of the blowout, were [537] you? A. No, sir.

Q. How long before that had you been at the well?

A. I don't recall exactly. It was during the drilling operation there, after they started up again.

(Testimony of Byron B. Norris.)

Q. Do you know how long before the 29th of November you had been at the well, 1944?

A. I don't believe I have any way of accurately determining that. If I recall right, they started up in July, I believe, and it was some time after that.

Q. How many times were you at the well in 1944 before the blowout?

A. I couldn't say offhand, but I would say about two or three times.

Q. Do you know when it was, how long before the blowout? Was it a month, two months, or what?

A. Yes, it was quite a little time?

Q. About a month?

A. I think it was longer than that. What they did was to drill down to 4,811, and then they had a fishing job and they had to come back and redrill. It wasn't necessary for me to be there during the redrilling period.

Q. You did not go back after the fishing job, the time they fished and cut the window?

A. No.

Q. You did not go back to the well again until when?

A. Until I was called up there after the blowout.

Q. In January? A. Yes. [538]

Q. Of 1945, and that cutting of the window transpired from October 8 to October 15. Were you there during that procedure? A. No.

Q. You were not there after that?

A. No.

Q. Until January 1945?

(Testimony of Byron B. Norris.)

A. You see, that was a redrill hole there and there was no occasion much to call me.

Q. So what was done and transpired after that until the blowout you had gathered from the log, I suppose, from what people told you?

A. I was in touch with the company and they were sending me cores to examine.

Q. By the way, who examined those cores?

A. Mr. Goodkuff examined some and Mr. Rankin others.

Q. Who examined the cores in 1943?

A. Mr. Glen C. Ferguson at Bakersfield.

Q. All of them?

A. All of the micro-paleontology work that was done in 1943, yes.

Q. Did he report on them? A. Yes.

Q. In writing?

A. Well, I don't know whether he reported to the company or not. I got my reports oral from him.

Q. Where? A. At Bakersfield.

Q. You got your reports from him at Bakersfield orally?

A. Yes. I would stop at his office and go over the reports and mark my schlumberger.

Q. You do not know that he ever made any written report?

A. I believe he did, yes. They were not furnished to me, though. [539] I was just interested in locating the top of these various formations.

Q. Did you ever look at any of his written reports? A. I think so, yes.

(Testimony of Byron B. Norris.)

Q. They have written reports on that?

A. I presume so.

Q. There were written reports by Mr. Ferguson. I gather from what you said that you assumed what was the character of the operations after the window was milled until the blowout from what information you could gather? A. Yes, I have.

Q. You have assumed what was the quality of the mud fluid; you did not see it, did you?

A. Not at that time, no.

Q. You also assumed, did you, that circulation was not interrupted after the pipe stuck on November 25 until the blowout, did you?

A. Well, I will say this: I came up in January and made up this log, and I went through all the records at that time and also talked with the drilling superintendent and those working on the well. That is the basis of my information at that time.

Q. In the question that was put to you, I want to ask you in giving your opinion, did you assume that the circulation was not interrupted from the time that pipe stuck on the 25th until the blowout?

A. I think it was testified, and I remember their telling me that they had some trouble with the pump. That would be an interruption of circulation for only a temporary period. [540]

Q. Were you here yesterday when young Mr. Mohr testified? A. Yes.

Q. Did you hear him testify——

A. I did.

Q. ——that over the period of the days before

(Testimony of Byron B. Norris.)

the 29th the absence of viscosity records indicated to him that the mud was not in circulation?

Mr. Scampini: If it please the Court, I do not remember any such testimony. My recollection is the opposite: circulation was continuous during that period of time, according to Mr. Mohr's testimony.

Mr. Bourquin: If there is any debate about it, we have a record. I will withdraw the question, your Honor.

Q. In voicing your opinion that there was beneath this ground or in this ground gas in commercial volume, what do you base it on?

A. Well, I base it on the statements I just made here, that the development of the well—in other words, at that point it had ceased to be a wildcat, and we know what formations—we knew what we normally could expect.

Q. Tell us what you based it on, what facts, that we may judge of it?

A. I based it on—we had drilled this well down and tested through the Domengine formation. We had developed gas of high pressure, of similar pressure to neighboring fields.

Q. That is one factor, that you had tested and found that there [541] was gas in what you termed the Domengine formation?

A. Yes.

Q. When was that?

A. That was in 1944, October.

Q. 1943. That is one factor. Go on further. What other factors?

(Testimony of Byron B. Norris.)

A. We made an analysis of that gas and found it checked very closely with the production in this area.

Q. By found you mean that it was——

A. The methane content was almost identical with Rio Vista.

Q. It was a good quality gas? A. Yes.

Q. That is No. 2. What other factors?

A. All right. Then based on the geological data we have and the presence of the McDonald Island sand in at least two producing areas, I believe it would be fair to assume that we had contacted it in this area. We drilled ahead with that objective, and so far as we know we had reached it.

Q. You then embraced the fact, or let us assume you embraced the fact as No. 3 that you had contacted what you term the McDonald Island sand. In what formation did you call it?

A. In the Martinez.

Q. In the Martinez formation. That is No. 3?

A. Yes.

Q. Any more?

A. Yes, the fact that that well would blow out with that weight of mud in, which I understood was 110 pounds that day, indicates to me there was a very heavy pressure accompanied by a considerable volume of gas.

Q. No. 4 is the blowout taken in connection with the weight [542] of the mud? A. Yes.

Q. As it is recorded on the log?

A. Yes, that is right.

(Testimony of Byron B. Norris.)

Q. That is No. 4. Is there any other factor upon which your opinion depends? A. I think not.

Q. That is all. Now, would you hold to the same opinion if you were not at that time in the sands which you say you believed you were in, namely, the Martinez sands of the McDonald Island variety? A. Yes.

Q. Would you still be of the same opinion?

A. If I definitely knew I wasn't in that sand? I don't quite understand.

Q. If the fact were you were not in such a structure, in such a bed, would you still be of the same opinion that you had a gas there in commercial quantity?

A. I would be from the standpoint of the pressures shown, yes. I do not quite follow that line of questioning.

Q. Assume you were in some other formation and not the Martinez you have talked about: Would you still be of the opinion that the hole had discovered or exposed gas in commercial quantity?

A. Well, by some other formation—the point of my discussion was we were in a known formation. I can't quite agree that I would expect so much in some formation that I did not know anything about, no.

Q. Does your opinion depend upon the fact that you were in the Martinez stratas?

A. Not necessarily, no. [543]

Q. Not necessarily?

A. If by chance we were in the top of the cre-

(Testimony of Byron B. Norris.)

taceous, it might be, there are known producing zones in that. In other words, if it was in well-known producing zones in this area, you have more reason to believe that that would produce than just taking any zone.

Q. Would you be of the same opinion that there was gas in commercial quantity if in fact you were in the cretaceous zone or bed?

A. Yes, I think I would.

Q. To the same extent, let us say, of volume?

A. Yes.

Q. You would hold to the same opinion there. Do you attach any importance to this blowout in coming to your conclusion or opinion that you had commercial quantity? A. Yes.

Q. Did you run up against an impending blowout in 1943? A. We did.

Q. What level?

A. That gas was contacted at 4,268 at that time.

Q. And you ran up against an impending blowout then and went to work on it, did you?

A. Yes, it was necessary to circulate for several days to kill that gas so we could take the drill pipe out.

Q. And after several days circulation you were able to control it and avert the blowout, is that true?

A. Yes, it mudds off the gas sand by continuing circulation, so the gas does not come through so strong.

(Testimony of Byron B. Norris.)

Q. Yes. In other words, circulation is an important factor [544] in maintaining the pressure, isn't it?

A. Yes, it has to maintain the pressure. The continuing circulation, however, was a safety factor to mud that wall off so the gas did not come through.

Q. It was an important factor, circulation was, in maintaining a proper consistency, so that gas would not come through that mud, wasn't it?

A. That is right.

Q. It would be a foolhardy thing to abandon circulation in the face of high pressure, would it not be?

A. It certainly would.

Q. And you say you circulated for several days and were able to avert it in 1943?

A. That is right.

Q. That was about 4,268. What was the place in 1943 that you found the gas that was tested by the Johnston people in?

A. We ran several Johnston tests. It was roughly, however, the same zone, the Domengine zone, about 4,268 on down.

Q. Were you present when those Johnston tests were made?

A. I think I was present at all but one of them.

Q. Can you tell us what one that was that you did not attend?

A. The next to the last one, the first perforation of the casing. I did get there shortly after the test.

Q. Were you there at the last test made by Johnston in 1943?

A. I was.

(Testimony of Byron B. Norris.)

Q. That was the test of October 27?

A. Yes.

Q. Were you here when Mr. Johnston testified the other day? [545] A. I was.

Q. Can you tell us who were the two young geologists that he referred to, that he said were on the property and took a hand in the test? Were you one of them? A. No.

Q. Do you know who they were?

A. I am not positive just who he was referring to. There were representatives from practically every oil or gas company around, particularly the Standard, Amerado and P. G. and E. I was at a loss to know just who he was referring to, myself.

Q. It sounded like somebody who took a part in the thing? A. Yes.

Q. You do not know whom he referred to?

A. I rather think it was the Marada boys, but I am not positive.

Q. You were there? A. Yes, I was.

Q. Did you take a part in it?

A. Yes, I observed the test.

Q. What was the result of the test?

A. We got a considerable blow and we got a bottom hole pressure of 2125 pounds.

Q. What was the result of the test in whether a commercial deposit had been found, or not?

A. 125,000 cubic feet of gas was estimated. In some areas that might be considered commercial, but it was not for that type of well. I took it up with the Petroleum Administrator for War at that

(Testimony of Byron B. Norris.)

time and they seemed to think that if you could get a plant in close it might be used, but they wanted to go deeper.

Q. Who wanted to go deeper?

A. The company.

Q. Let us see what you said in your report on that matter on November 1, 1943, the Cal Bay matter. Have you that before you? A. Yes.

Q. On page 2 I will read the part that refers to that test:

“Of course, it was known that gas was entering this hole because it was breaking through at the surface. Then 7-inch O.D. 23-pound casing was cemented at 4343 with 150 sacks of cement to give a shut-off test for the State Division of Oil and Gas. Four 3/9th inch holes were shot at 4250 to 4251. This test demonstrated a water shut-off.”

Q. What did that mean?

A. That is the test the State requires to demonstrate that water has been excluded from the producing formation.

Q. I will continue:

“Then the casing was perforated from 4269 to 4281 with 22 3/8-inch holes. This test was made with the Johnston formation tester on 3-inch drill pipe. The test showed an estimated 100,000 cubic feet of gas. There was no water with the gas. Later the casing was perforated at from 4281 to 4289 with 9 half-inch holes. The formation test of all perforations from 4269 to 4289 showed an estimated

(Testimony of Byron B. Norris.)

flow of 125,000 cubic feet of gas. This test indicated that the zone was high-pressure gas but the volume was not large due probably to the low permeability of the sand. The Schlumberger survey also indicated the possibility of the low permeability of the sand. There was no water with the gas."

Have I read your report?

A. Yes, that is correct.

Q. That is the way you reported on the matter?

A. Yes.

Q. In other words, at that time you were of the opinion that the volume of gas was not large there due probably to the low permeability of the sand, is that correct?

A. Yes.

Q. In that same report you recommended after the suspension of operations that further drilling be done in the hope that something might be encountered, did you not?

A. Yes, sir.

Q. You recommended that they use up the balance of the drill [548] pipe that they had on the property, didn't you?

A. Not necessarily, no.

Q. Let me read the conclusion of your report.

Mr. Scampini: If it please the Court, the report is in writing.

Mr. Bourquin: I am going to read it.

Mr. Scampini: It should be submitted to the witness and read in its entirety and not merely extracts from certain portions.

Q. (By Mr. Bourquin): Have you a copy of your report, Mr. Norris?

A. I have.

(Testimony of Byron B. Norris.)

Q. Will you read the concluding paragraph, the recommendation:

“There are 6000 feet of 3-inch drill pipe at the rig now. In the writer’s opinion it would be well to prepare to drill another 2000 feet if necessary in order to test any possible producing formations that may be encountered in the balance of the eocene formations and in the top of the cretaceous formations. It is possible that a commercial gas sand may be encountered at any future depth. There is not sufficient data available to definitely tie down the thickness of the various formations to be encountered, so the writer recommends a test of all light formations encountered in the next 2000 feet of this hole.”

Q. That is correct, is it? A. Yes. [549]

Q. That was your recommendation at the time. You thought then at that time that it was possible that if drilling was continued producing formations might be encountered in the balance of the eocene or even in the cretaceous, did you? A. Yes.

Q. And possibly a commercial sand might be encountered at some future depth, is that correct?

A. Yes, that is right.

Q. You did not prognosticate in that report at any point you had reason to expect a commercial sand, did you?

A. You mean the actual depth in which we would hit one?

(Testimony of Byron B. Norris.)

Q. Yes, just as you did here on direct examination. A. No, I did not.

Q. You did not there in that report prognosticate any particular place, at any particular depth, as being more likely than any other, did you?

A. I mentioned that the balance of the eocene and the top of the cretaceous should be contacted. I do not think, frankly, that I had all that information on November 1, 1943, that I have now, or had even a short time after that. The cores were being examined from time to time.

Q. You had the information on the core and the temperature analysis that had been made on the way down, though, in 1943, at that time, didn't you? A. Yes.

Q. That is all embraced on page 2 of this very report that I read, isn't it?

A. Yes, that is right.

Q. What information was it, then, that you did not have when you prepared the report on November 1st that enables you now [550] to say that looking down from where you were in 1943 you could say at what level it was most likely you were going to find something?

A. You mean the information I have now?

Q. What information did you have then?

A. I had the information that I have set forth in here. I do think this, however; perhaps all the cores and all the analyses had not been done. You see, this well was shut down, if I recall right, October 28th, and this is dated November 1st.

(Testimony of Byron B. Norris.)

Mr. Scampini: 1943?

The Witness: 1943. In other words, this report was to state the conditions at that time, and what I thought would be a fair future program. That area was new to us. We got quite a little more information from time to time, and I rather imagine——

Q. You were pretty new in that area at that time, yourself, weren't you? A. Yes.

Q. At the time that you filed your report with the corporation commissioner applying for leave for this company for this company to issue and sell stock, you were under the impression that the Rio Vista beds and the McDonald Island beds were producing from the cretaceous zone, were you not?

A. That is right.

Q. That is correct, isn't it?

A. At that time I was not able to discover from any published data otherwise.

Q. So you assumed that to be the case, and you so stated that [551] in your report, didn't you?

A. I did.

Q. And you were a hundred per cent mistaken in that, weren't you? A. Yes.

Q. Yes.

A. I corrected it in a later report here, though.

Q. You corrected it after the stock permit was given and stock was sold, didn't you?

A. I corrected it when I got reports and data on those fields at Rio Vista, Tracy, so forth. [551-a]

Q. When did you first correct it, so we will know?

(Testimony of Byron B. Norris.)

A. I made a record on August 18, 1944.

Q. August 18, 1944. How much stock, to your knowledge, was sold by that company from April 20, 1942, when you projected it, until August 18, 1944?

Mr. Scampini: I object to that as incompetent, irrelevant, and immaterial. The issuance of the stock is not material.

Mr. Bourquin: It may not be material there, but I bet it is material to the stockholders. Well, I will withdraw the question.

Mr. Scampini: I move to strike out the statement of counsel, because if anything is material to the stockholders it would be the verdict of the jury. I will ask the jury be instructed not to pay any attention to such remarks of counsel.

Mr. Bourquin: Mr. Norris——

The Court: Of course, the comments of counsel are not permissible in evidence. The jury will not take them into account. You can't take one statement or another. You asked me to have the jury disregard a statement of Mr. Bourquin, and you made a statement that is equally subject to the same criticism. So I will just tell the jury not to pay any attention to either lawyer. That is, on this particular matter.

Q. (By Mr. Bourquin): Mr. Norris, what beds or formations if you know where gas, a commercial gas is found in the Rio Vista and McDonald Island fields?

A. It is found in upper [552] eocene. Yes, it is my contention the Domengine formation is the

(Testimony of Byron B. Norris.)

upper zone at Rio Vista. They have found McDonald Island sand there, and at McDonald Island the McDonald Island sand is the only productive zone.

Q. What bed is that in?

A. That is Martinez—

Q. What age is that?

A. Some geologists call it paleocene, a small age of formation between eocene and miocene.

Q. Paleocene? A. Yes.

Q. Which is older?

A. Between eocene and crustaceous. Not miocene. Miocene is above all this.

Q. You said between eocene and miocene.

A. Well, I am sorry. Yes, between eocene and crustaceous. I have a recent publication on Rio Vista. I can get that section.

Q. No, I want to clear up this matter so we have no mistake. As you said, when you first recommended the matter for development you were under the mistaken assumption, and your report so showed, that Rio Vista and McDonald Island were producing in the crustaceous age.

A. Yes, and I believed that, and as a matter of fact Tracy is still producing from the—

Q. I asked in regard to McDonald Island and Rio Vista, not Tracy.

A. Yes. I don't offer any excuse for it at all. In other words, I would have recommended the property for a crustaceous producing well as far as that is concerned.

(Testimony of Byron B. Norris.)

Q. On your direct examination here today you testified to the fact you encountered these gases and high pressure at 4268, and [553] had made that the basis that you found gas of commercial quantity and you estimated that there would be gas deposits about 500 feet deeper? A. Yes.

Q. That is the term you used. You stated you were of that opinion at the time when the well had been drilled to a depth of 4375 feet? A. Yes.

Q. When you reported the matter to Cal-Bay for the purpose of its stock transaction——

Mr. Scampini: I move to strike out the question on the ground there is no evidence that the report was made for any purpose involving any stock transaction. It was given as a report or recommendation as to future progress in connection with the drilling. I object to the question as assuming something not in evidence.

The Court: I think the witness already testified that he knew that the report was used for filing with the Corporation Commission in connection with the application.

The Witness: That's right, your Honor.

Mr. Scampini: That is not the purpose. It may have been used but that is not its purpose. Its purpose is to advise the Cal-Bay Corporation what to do with respect to the well. It is a recommendation as to future development.

Mr. Bourquin: Well, that is not Mr. Norris' testimony, and it is not the way I think the record stands.

The Court: Proceed. [554]

(Testimony of Byron B. Norris.)

Q. (By Mr. Bourquin): When you compiled your report of November 1st, 1943, you did not say anything about holding any reason to believe that gas in quantity would be encountered 500 feet deeper, did you? A. I believe not.

Q. When you compiled that report you said that it would be well to drive another 2000 feet with the amount of the drill pipe you had in the hope that possible producing formations might be encountered anywhere in the balance of the eocene or top of the crustaceous? A. Yes.

Mr. Scampini: I object to that question on the ground the word "hoped" does not appear in the report. The entire report should be read to the witness if he is going to ask him——

Mr. Bourquin: He has the report.

Mr. Scampini: Then I object to insertion into the record of any words which do not appear on here.

Mr. Bourquin: Let me read it to you: "It is possible that a commercial gas sand may be encountered at any future depth." That was your representation, wasn't it?

A. Yes.

Q. Not 500 feet, not 600 feet, but any future depth; is that correct?

A. Yes, that's right.

Q. At that time you reported that there was not sufficient data available to see down, indicating to estimate the thicknesses of the various formations to be encountered, didn't you? A. Yes.

(Testimony of Byron B. Norris.)

The Court: Mr. Bourquin, you have more cross-examination? [555]

Mr. Bourquin: Yes, I will, your Honor.

The Court: Well, I think we have reached the adjournment hour. Ladies and gentlemen, we will reconvene again tomorrow morning at ten o'clock. Please bear in mind the admonition I have heretofore given you that it is your duty not to talk about the case or form an opinion until it is finally submitted to you.

(An adjournment was taken until tomorrow, Thursday, January 30, 1947, at 10:00 o'clock a.m.) [555-a]

Thursday, January 30, 1947

10:00 o'Clock A.M.

The Clerk: United States of America vs. Certain Land in Contra Costa County.

Mr. Bourquin: Ready, your Honor.

Mr. Scampini: Ready.

Were you through with Mr. Norris, Mr. Bourquin?

Mr. Bourquin: No.

BYRON B. NORRIS

recalled.

Cross-Examination

(Resumed)

By Mr. Bourquin:

Q. To clear up what I note in reading the record reference to the types of structures as you de-

(Testimony of Byron B. Norris.)

pected them in color on the Contra Costa County map, and to know what relation they had to our problem, you say that red structure second from the top, you said that was miocene; is that right?

A. Yes, that's right.

Q. That is a structure which you found to exist in this area, on this property, I mean, but to the north and east of this property?

A. You mentioned "structure." That is actually the formation that was present there, the surface formation.

Q. You have given it its right name?

A. A miocene formation or formation miocene A.

Q. That formation exists not on this property, but on land north and east of this property?

A. By "this property," you [556] mean the Cal-Bay property?

Q. Yes.

A. I believe there is a portion of that that overlaps onto Cal-Bay property.

Q. You are quite right. I see it corners, as we spoke yesterday, that miocene formation you found laps into the Cal-Bay property up on a small corner which is shown here.

A. Yes.

Q. But the bulk of it, as you show on this map, is a large area which overlays or exists in the countryside there to the north and east.

A. That's right.

Q. You made a reference yesterday in pointing that out to the fact that that is the kind of forma-

(Testimony of Byron B. Norris.)

tion that exists in Kettleman Hills. I notice that in the record. A. Yes.

Q. Should we assume, therefore, that all of the land owners to the north and east of this location, to the extent of the red shown there, are existing over an oil structure like Kettleman Hills?

A. They are not by any means, no.

Q. They are not. Yesterday you enumerated four factors on which you drew a conclusion, or from which you drew a conclusion that there was a productive quantity of gas in the subject property?

A. Yes.

Q. Without reciting them again will you tell me the factors that were encountered in the exploration in 1944 that were not also encountered in the exploration in 1943?

A. Just a second, I will refer to the log. At the conclusion of operations in 1943 they had reached the depth of 4398 feet, and [557] then——

Q. Let me have that figure again.

A. To 4398 feet.

Q. 4398 feet. Thank you.

A. Then when drilling was resumed in 1944 they continued drilling and coring ahead to a depth of 4811 feet. At that depth they got into a fishing job.

The Court: I think you misunderstood counsel's question. I don't want to interrupt, but all he wanted to know is what factors were present on which you based your conclusion in the 1944 exploration that were not present in the 1943 exploration.

(Testimony of Byron B. Norris.)

A. Your Honor, I was just laying a foundation for the work that was done in 1944 to show what I could base it on.

The Court: Well, I don't know whether that is what counsel wishes.

Q. (By Mr. Bourquin): If it is necessary I will recite the four factors to him that he gave us yesterday which he says are the basis of the opinion. I can do it from the record. Do you know what they are?

A. Yes, you can read them.

Q. Well, you know what they are, don't you?

A. Yes.

Q. If they support your opinion?

A. Yes.

Q. Without taking the time of the court and the jury, tell us what they are, what was not present in 1943.

A. Well, as I stated, there was more hole drilled and more evidence obtained. Of course, 1943—you stop there presumably about eight or nine hundred feet short of—Well, it wouldn't be quite that much; [558] the difference between that would be to 4975.

Q. All right. You say there was more hole—without debating as to whether or not that was one of your four factors, what other factors did you encounter in 1944 that were not encountered in 1943?

A. We encountered this gas pressure down at 4900.

Q. Had you encountered any gas at any time in 1943?

A. Yes.

(Testimony of Byron B. Norris.)

Q. What other factors can you name that you encountered in 1944 that were not present in 1943?

A. Well, if I would be permitted to give some of these core analyses, we did that. In other words, anything that was done between those depths certainly adds to the information.

Q. Suppose I read the four factors to you and see if we can stay in the same ground as we did yesterday. Page 541. This is an answer to the question: "Tell us what you based it on, what facts, that we judge of it?"

A. I based it on—we had drilled this well down and tested through the Domengine formation. We had developed a gas of high pressure, of similar pressure to neighboring fields.

"Q. That is one factor.

"A. We made an analysis of that gas and found it checked very closely with the production in this area."

I said to you:

"That is No. 2." Then, "What other factors?"

You said:

"All right. Then based on the geological data we [559] have and the presence of the McDonald Island sand in at least two producing areas, I believe it would be fair to assume that we had contacted it in this area. We drilled ahead with that objective, and so far as we know we had reached it." That was said. I said: "That is No. 3."

(Testimony of Byron B. Norris.)

Then you were asked: "What other factor?" and you answered:

"The fact that that well would blow out with that weight of mud in, which I understood was 110 pounds that day, indicates to me there was a very heavy pressure accompanied by a considerable volume of gas."

That is the blow-out.

I said to you:

"That is No. 4." And I asked you, "Is there any other factor upon which your opinion depends?" and your answer was: "I think not."

Let us review those factors. First, you said, No. 1, to go back, "We had drilled this well down and tested through the Domengine formation. We had developed a gas of high pressure, of similar pressure to neighboring fields."

Now, did the exploration in 1943 encounter gas of high pressure? A. Yes.

Q. That was present in 1943. Your reference to similar pressure in neighboring fields, then we will pass that for the moment. No. 2 was, "We made an analysis of that gas and found it checked very closely with the production in this area." That was the analysis testified to by the young man from the [560] Dow Laboratory, here?

A. Mr. Obrecht, yes.

(Testimony of Byron B. Norris.)

“Q. That was encountered about March in 1943? A. That’s right.

“Q. In other words, Mr. Obrecht made his tests in 1943, that is correct; true?

“A. Yes.

“Q. And there was no test of the gas, such tests made in 1944 at all?

“A. It was not possible to make such test.

“Q. Let me get No. 3. On No. 3 you said, ‘Then based on the geological data we have and the presence of the McDonald Island sand in at least two producing areas, I believe it would be fair to assume that we had contacted it in this area.’ ”

Was the third one on the sand correct?

A. Yes.

Q. Now, on the question of the sand, examine the log and tell me where in the log it shows the sand that you and my friend, Mr. Scampini were talking about at the figure 4973; that is the footage he used repeatedly.

A. The log of 11/25/44 in the morning tour reads: “Depth 4951 to 4975. Sand and shale.” That is a typical driller’s log.

Q. That is November 25, 1944? A. Yes.

Q. There the drillers report their observations that they had cut to the stream and observed sand and shale; is that the way——

A. Well, it is not spoken of that way.

Q. Well, how does it read?

A. It means——

(Testimony of Byron B. Norris.)

Q. No. Please read just what it says.

A. It says, "Sand and shale," but if I may explain that——

Q. No, no. We want the drillers, if anyone, to explain that. [561] You were not there, were you?

A. No.

Q. All right. I am only suggesting to the witness, you might sit if you would be more comfortable, Mr. Norris. Now, you weren't present there that day, November 25, 1944?

A. No, I was not present.

Q. You therefore did not see the sand and shale, did you? A. No.

Q. While we are on the subject, did you ever see the sand and shale that came up from that hole November 25, or afterward?

A. No, I have not.

Q. You never have seen it?

A. I might explain that that would be caught on the shaker.

Q. I am testing your opinion. We will let the record ride.

A. Well, if I may explain, I am not bound by a driller's log, at all. The driller, he testified here that he ran into it and he pulled out.

Q. Are you basing your opinion, then, on what the driller testified to here?

A. That is normal——

Q. Please answer the question. Are you basing your opinion on what the driller testified to here?

A. Yes, as far as that particular item is concerned.

(Testimony of Byron B. Norris.)

Q. Which driller are you referring to?

A. The drilling superintendent, Mr. May.

Q. Mr. May. You have taken Mr. May's testimony relating to the subject matter and made that one of the four factors, the [562] basis of your opinion, have you? A. No.

Q. Well, have you any other information about the sand?

A. We have the information that that sand had gas to cause a blow-out.

Q. We will come to the blow-out. For this entry of sand and shale, let's go back in the record and see how highly significant that should be, that sand and shale. Look at the log for November 24th and see what is reported at higher depths in that connection.

A. November 24, 1944, the morning tour 4892 to 4898 feet.

Q. Wait a minute. That is about 75, that is 50 to 75 feet higher than on the 25th.

A. Yes; a little over that.

Q. On the morning tour the driller reported sand at that—— A. Yes.

Q. Just read it.

A. "4892 to 4898 sand, 6 feet of sand."

Q. How about the day shift?

A. 4898 feet to 4903 shale. 4903 to 4907 sand.

Q. In those four feet they reported sand?

A. Yes. 4907 to 4908 shale.

Q. Shale. A. At 4908 to 4930 sand.

(Testimony of Byron B. Norris.)

Q. What about the third shift that day?

A. 4930 to 4938 shale with thin streaks of sand. 4938 to 4951, sandy shale.

Q. Let me review that with you. The day of November 24th, the day before this depth that you gentlemen have been referring to, the morning shift from 4892 feet to 4989 feet sand. Correct?

A. Correct.

Q. That would reflect with allowances for the drillers' observations 6 feet of sand?

A. That's right.

Q. On the day shift 4898 to 4903, the next tour.

A. Yes.

Q. 4903 to 4907, that makes four feet of sand?

A. Yes.

Q. For the next one a depth of 4907 to 4908, shale.

A. Yes.

Q. For the next 4908 to 4930, sand; is that correct?

A. Yes.

Q. On the third shift, 4930 to 4938, noticed this thin streaking of sand.

A. True.

Q. 4938 to 4951 shale.

A. Correct.

Q. It was spotty sand, isn't it?

A. That is what we call the streaks of sand and shale.

Q. That is what the drillers term it. Let's take a good hop back in the log to October. Let's pick up one here on October 18th when they were at, where they started to drill in 1944, October 18, at 4391 feet.

A. All right, I have it.

(Testimony of Byron B. Norris.)

Q. What do you find in that connection at the depth of 4391? I will say this, that is seven feet short of the bottom of the 1943 hole; I think you said the bottom of the 1943 hole was 4398?

A. Yes.

Q. Let's go into that date. What do the drillers report on the first shift there?

A. 4391 to 4414 gas and shale.

Q. 4391 to 4414 gas and shale, just like November 25, 1944? A. Yes.

Q. Go on down to your log of October 20th at 4603 feet. What do they report?

A. 4603 to 4608 sand and shale. [564]

Q. 4603 to 4608 sand and shale. Let's go to the log for October 21st and get deeper, 4671.

A. 4724 sand and shale.

Q. That's about 50 feet of sand and shale, 4671 to 4724. A. Yes, a little over.

Q. Let's take an other depth, go over a—jump 100 feet, go over to October 28, 4877, and see what you get.

A. October 28, 4788 to 4815, no record of that.

Q. What about the day shift?

A. The day shift, 4815 to 4821, sand.

Q. Now, sir, these depths that I just called to your attention are depths reached before the hole got into trouble, weren't they? A. Yes.

Q. In other words, the depths that we have read from October 18 to October 28, there, are depths before this condition took place in the hole that you say was impossible to make tests afterwards, is that correct?

(Testimony of Byron B. Norris.)

A. I understand that the drill pipe was stuck in it; made it impossible to make any tests in the hole.

Q. To clarify our record, the record of sand, and sand and shale that we have read from the log beginning on October 18th to October 28th, where sand, and sand and shale was encountered before the condition in the hole that made it afterward impossible to test? A. Yes.

Q. Were any tests made during that interval?

A. You mean formation tests, or anything else?

Q. Any tests made to determine the merits of those sands or sand [565] and shales?

A. No.

Q. None?

A. If I might explain, it is like drilling a hole of his old hole so there wouldn't normally be any reason to do that.

Q. Now, we started the review of sand and shale at higher depths, there are sands and shales above the bottom of the old hole?

A. Yes, that is right.

Q. We have been in the new hole and the new depth ever since October 18, 1943. A. Yes.

Q. At no time did anyone there feel the situation was such to stop and test the merits of those sands and shales?

A. That's right; no sands were encountered that was deemed worthy of a test.

Q. Although in your recommendation made to them, upon which they resumed their drilling in 1944, you voiced the opinion that productive forma-

(Testimony of Byron B. Norris.)

tions might be encountered in the balance of the eocene formation or crustaceous, and possibly a commercial sand should be encountered at any future depth? A. That's right.

Q. So you recommended then in your report and based upon all of likely formations encountered in the next 2000 feet of the hole—meaning commencement of operations in 1944.

A. Yes, that's right.

Q. Let's go to the fourth factor. The fourth factor you said was the blow-out. You told us yesterday that you had been confronted with your blow-out in 1943.

A. Yes, they had a [566] potential one but they handled it.

Q. They encountered a condition developing a blow-out and after four or five days' work they were able to avoid it? A. Correct.

Q. Had their efforts not been successful it would have culminated in the completion of the blow-out?

A. Probably would, yes.

Q. Probably would. On this subject of pressure, do you take pressure to be a demonstration of commercial volume of gas?

A. Yes; that is one of the items that is always considered.

Q. That is an item that is considered. Would a high-pressure standing alone prove a commercial volume of gas?

A. Well, it is a question of whether high pressure would stand alone. It takes something to create it.

(Testimony of Byron B. Norris.)

Q. Have you in your experience encountered high pressure before that blow-out where no commercial quantities were found?

A. I don't think I have, no.

Q. Never have. Have you ever before taken any part in an exploration for oil or gas in Northern California?

A. I have up as far as Coalinga.

Q. Have you ever before taken any part in any exploration in, let's get north of Coalinga, in California?

A. With the exception of this hole, I have not.

Q. This is the only? A. Yes. [567]

Q. What would it indicate to you that after the blow-out, and when the gas was killed, the hole was opened, circulation was established and continued?

A. Well, it would indicate to me that they did a pretty good job of shutting off that blowout. I think that has been discussed here at great length, and, frankly, it is my opinion that the crew did an excellent job there.

Q. Would it indicate anything to you with reference to your supposed volume of gas at the bottom of that hole?

A. I do not believe it would have any bearing, because in killing the well they put new heavy mud in there for the purpose of mudding off that gas. In other words, when you control a well you put a heavy weight material down there and it would tend to keep that gas down. I do not think there would be any indicator given by that.

(Testimony of Byron B. Norris.)

Q. In other words, you mean they increased their mud, I think, five or six pounds there in weight, didn't they? A. Yes.

Q. And then there was no further blowout or blowout disturbance, is that correct? A. Yes.

Q. That would not indicate to you by any chance that the puff, wherever it had come from, had been exhausted and was not there any more, would it? A. No.

Q. It would not indicate——

A. That has never been the case in that hole in 1943 or 1944. The gas kept coming [568] continuously.

Q. On that subject—you referred to it yesterday and perhaps I did, too, in my examination of you—the gas encountered in 1943, that was estimated on one test at 100,000 cubic feet per day and on the last test before it was shut down, on October 27, at 125,000 cubic feet a day, is that correct?

A. That is right.

Q. How far can those estimates of the rate of flow be taken in this quantities to indicate the volume?

A. The formation test opens those formations to the air or to the atmosphere, and it allows the gas to come up and blow out the pipe. Those are based upon the amount of flow of gas from the well head.

Q. The estimate is the estimate of the flow which, had it continued for 24 hours, would yield 100,000 cubic feet or 125,000 cubic feet?

(Testimony of Byron B. Norris.)

A. Yes, that is customary to measure it in thousand cubic feet per day.

Q. None of these tests were opened for 24 hours, were they? A. No.

Q. Do you know what the P. G. & E. was paying and what gas would sell for at the well head in that locality at that time? A. Yes.

Q. How much? A. Ten cents.

Q. Ten cents what?

A. Ten cents per thousand cubic feet.

Q. I do not want to debate trivia with you, but are you sure it was not nine cents that they were paying at Rio Vista?

A. I base that on—we had several representatives from the [569] P. G. and E. there.

Q. Let us take the ten.

A. My recollection is that is what they offered. They were interested in putting a pipe line to the well if we could get some gas there.

Q. How much would a well yielding 100,000 cubic feet a day, if we assume that it would, pay a day at that rate? A. \$10.00.

Q. And at 125,000 would pay what?

A. \$12.50.

Q. By the way, on this subject, what was your estimate of the cost of drilling that well to 5,000 feet that you projected for the representation to the Corporation Commission?

A. That is in the original report you referred to?

Q. Yes, Mr. Norris.

A. To 5,000 feet I estimated a cost of \$50,000.

(Testimony of Byron B. Norris.)

Q. May I ask you how long it would take to pay the cost of drilling the well on a yield of \$10.00 a day? Well, it would be 5,000 days, wouldn't it?

Mr. Scampini: I object to the question as hypothetical and speculative, because it is assuming something not in evidence.

Mr. Bourquin: Five thousand is very definite.

Mr. Scampini: If it please the Court, it is assuming something not in evidence, because we had discovered natural gas in the Martinez sand in **this well, and** that would have to be put in production before you determined the total aggregate [570] volume coming out.

The Court: Counsel is not asking that. He is asking at the time of the 1943 showing how long would it take at that rate?

Mr. Scampini: If the well had been completed or put in production in the Domengine sand discovered in 1943, but he would have to take into consideration the discovery made in 1944.

The Court: Now you are arguing the case, Counsel.

Mr. Scampini: Pardon me.

The Court: I think Counsel is examining the witness to find out if there was any difference in 1944 from 1943, which is a perfectly legitimate field of cross-examination. He has a right to go into that.

Mr. Scampini: I will defer to your Honor's ruling.

Q. (By Mr. Bourquin): That would be about five thousand days, wouldn't it, Mr. Norris?

A. Yes.

(Testimony of Byron B. Norris.)

Q. About thirteen to fourteen years, is that correct? A. That is right.

Q. Let us assume that a well drilled to 5,000 feet cost \$242,000; it would mean that at a yield of \$10.00 a day it would take 24,200 days to pay the cost of drilling the well and exposing the gas, wouldn't it?

Mr. Scampini: I make the same objection to that question, your Honor, for the purpose of the [571] record.

The Court: I will overrule the objection, the objection, although it obviously calls for a mathematical calculation.

Mr. Bourquin: I am asking if the calculation is right.

Q. It is 24,200 days?

A. May I answer that?

Q. I am asking you if that is correct, if my mathematics are not correct? Please tell me.

A. Yes, your mathematics are correct, but you mentioned 5,000 feet, and if you do that you must take in this zone we tapped at 4,900.

Q. I thought we had covered that this morning.

A. I do not want to be arguing with you.

Q. You can go back to that with your counsel. In other words, 24,200 days would be approximately 60 plus years to return the cost of developing the well; that is correct, isn't it?

A. I can not agree with you, because you are basing that on 5,000 feet.

(Testimony of Byron B. Norris.)

Q. I am asking you to take \$10.00 a day yield.

Mr. Scampini: If the Court please, it is asking for purely a mathematical calculation.

The Court: That is true. I guess the Jury can calculate that, too.

Mr. Scampini: And it is argumentative.

Q. (By Mr. Bourquin: In your assumption that there was a commercial gas deposit here, what did you assume to be the life of it?

A. I do not believe I assumed the life of it. Probably it would be a good many years, [572] however.

Q. How many would that be?

A. Well, I would say thirty or forty years, possibly. Most of our gas fields in California are fairly young and we have no data of any great length to estimate it on.

Q. You mean you would suppose it would be thirty or forty years because you have no experience yet to test by? Is that it?

A. We have the experience of a few years, yes.

Q. How many wells were drilled in the Tracy field commencing in 1935?

A. You mean up to when?

Q. Up to now. How many wells did that Amerada Company drill in that Tracy field?

A. I can't give you that figure offhand, but I have the state bulletin—on the Tracy field? I believe there are only four wells in the Tracy field.

Q. They drilled seven commencing with the first in 1935, did they not?

(Testimony of Byron B. Norris.)

A. I can check that in just a minute. Well, quoting from State Bulletin 118, this map shows only, I believe, five wells up to 1943. I am not familiar with just how many have been drilled since then. That is, there are five producers.

Q. Is that the only information that you have about the Tracy development, the state bulletin you are referring us to?

A. No, it is not the only information, but I think it is authoratative information.

Q. Have you been in that field?

A. Yes, I have been through that field. [573]

Q. You have had the opportunity to observe how many wells were brought into production?

A. Yes, you can observe them there.

Q. Don't you know that commencing in 1935 the Amerada Company has drilled seven wells in the Tracy field, and that today all but two have been exhausted and abandoned?

A. I did not know that.

Q. What did you assume to be the volume of this assumed gas deposit in coming to your conclusion that there was a commercial discovery there?

A. I could not make any assumption. We did not have a chance to make a test.

Q. You do not have any idea whether it is great or small, is that it?

A. Well, based upon the pressures, and assuming a porous sand, I would say it would be between ten and twenty million probably. Those factors—I do not want to be pulled into something where we

(Testimony of Byron B. Norris.)

do not have sufficient factors to base it on. In this case you have the pressure and the fact that there must have been some volume there to force that mud out.

Q. We have covered the subject of pressure. Let us to go this porous sand. Did you make any test of this sand to test the porosity of it?

A. No, no cores were taken of that sand.

Q. What is the porosity of the sand?

A. It is the pore space between the grains of sand.

Q. Is that the same as permeability?

A. No. [574]

Q. You used those terms interchangeably yesterday. I wondered. What is permeability?

A. Permeability would be the property of the sand to transmit any fluid or gas. In other words, there may be silt or other material in the spaces that would make it a little tighter.

Q. Permeability is the travel base in the sands to permit the gas to come through, isn't it?

A. Yes, that is right.

Q. That was the condition that you assumed and reported in 1943 was the defect in the sands encountered on the tests made by the Johnston people, wasn't it?

A. That is right.

Q. That is, that there were sands, but they were not of sufficient permeability to transmit any commercial volume of gas?

A. That is right. I base that on the fact that the gas flow was very steady there, but not of large volume, but it just kept coming.

(Testimony of Byron B. Norris.)

Q. In 1944 you did not make any tests of the sand at the places where you say you believed the discovery was made?

A. No, the drill pipe was stuck. It would be impossible to do it.

Q. So you are assuming that there was sufficient permeability there, are you?

A. Based upon the evidence, yes.

Q. Based upon what evidence.

A. The evidence of the blowout.

Q. Based back again on the blowout. Anything else?

A. Yes.

Q. What else?

A. On the fact that I expected to contact a [575] producing zone at about that depth.

Q. When did you come to that expectation, if we have to go back to that again?

A. Well, I do not know whether I am permitted to use my core records——

Mr. Scampini: Sure you are.

Q. (By Mr. Bourquin): All we want is the date or about when, or even the year. When did you come to the expectation that there was a development to be expected at any certain depth?

A. I had come to that conclusion when I wrote that report.

Q. Which report? The 1943 report after the shut down?

A. Yes.

Q. Let me read that to you again. Have you it before you?

A. That is what date that you refer to?

(Testimony of Byron B. Norris.)

Q. I want to get the report you are talking about. I was assuming it was the report you made on the shutdown in 1943.

A. I made several reports in 1943. On September 4——

The Court: Can't you hurry along? You are talking about the report you previously asked the witness about, are you not?

Mr. Bourquin: Yes. He said he thought it might be encountered at any depth in a further exploration of 2,000 feet. I think that is in evidence.

Q. Mr. Norris, is there any other factor but the blowout from which you have assumed that there was a commercial quantity of gas.

A. Yes, there is. I would like to call your [576] attention to some core analyses that were done here.

Q. Can you tell us what they were?

A. Yes. We submitted cores to Dr. Goudkoff and in his analysis, at 4,823 to 4,843, he placed it at meganus, which would be just above the Martinez. That gives us a point to estimate where we would probably strike it. In other words, we had what we call control of the situation as far as the geological section is concerned.

Q. In other words, you say there is another factor in the fact that a Micro—what do you call those fellows?

A. Micro-paleontologists.

(Testimony of Byron B. Norris.)

Q. —the micro-paleontologists found on the core examination at 4,823 that you were then approaching what?

A. He listed it as meganus, which would be just above the Martinez.

Q. In other words, he told you there you were just above the Martinez, is that correct?

A. Yes.

Q. And then you assumed from that, that when you got down another 100 feet you were in Martinez, is that correct?

A. Yes, or approximately those formations.

Q. Isn't it right, as we said this morning, whether it is Martinez, Martini, or paleocene, or anything else, it is not a question of the bed, it is a question of whether it happens to contain a gas deposit, isn't it?

A. That is right.

Q. Look at your report again for 1943, the shut-down, the last page, and let me ask you if you did not report then and was [577] not the report then made to the corporation that at the present time—being the depth of the 1943 hole—based on the analysis of the micro-paleontologist, the well is now drilling in martinez shale? Didn't you so report?

A. I did.

Q. My goodness, you fellows will be translating these beds up and down forever at that rate.

Mr. Scampini: I move to strike out the remarks of Counsel.

Mr. Bourquin: I withdraw the remark, your Honor.

(Testimony of Byron B. Norris.)

The Witness: I would like an opportunity to explain that.

Mr. Scampini: If it please the Court, I think he is entitled to explain.

The Court: What was the last question?

(Question and answer read).

The Court: Do you want to explain that answer?

The Witness: A. Yes, I would like to, your Honor. At that time, based upon our work with Ferguson, we did think that was right, but later cores and analyses contradicted that, and I am inclined to agree with Goudkoff on the matter. In other words, the core analysis I mentioned at 4,823 to 4,843 was analyzed as meganus, which would be above the martinez.

Q. (By Mr. Bourquin): In other words you mean the fellows you had make these tests did not agree themselves, is that it?

A. No, I would not say that. They were separate cores that [579] they analyzed.

Q. One fellow said one thing and another fellow said something else?

A. Sometimes that happened, yes.

Q. Did it happen in this case?

A. Not on the same cores, no.

Q. Did it happen that one fellow gave you a determination of when you reached a particular bed as at one time, and the other fellow gave you the same information at a particular different time at another depth entirely?

(Testimony of Byron B. Norris.)

A. That is not entirely correct. Goudkoff did not give us the top of the martinez, but by analyzing the geological column, if it was meganus, it must still be above it.

Q. Let me put it this way to sum it up: Ferguson told you that your drilling in 1943 was in the meganus shale and Goudkoff came along in 1944, and told you that even down at 4,844 you were not there yet, isn't that correct?

A. That is the substance of it, yes.

Q. They are both in the same field, micro-paleontology? A. Yes.

Q. Both experts? A. Yes, sir.

Q. Isn't that a pretty speculative basis to assume a commercial deposit of gas on?

A. No it is not.

Mr. Scampini: If the Court please, we object to the question as entirely argumentative.

The Court: I will overrule the objection. On the opinion [579] testimony, cross-examination is allowed within reasonable limits.

Mr. Scampini: If the Court please, I think the witness ought to be allowed an opportunity to answer the question.

The Court: You were objecting while Counsel was asking the question and the witness' answer came in at the same time. You might read the question and answer, Mr. Reporter.

(Question and answer read).

Q. (By Mr. Bourquin): Mr. Norris, have you any interest in this venture? A. I have none.

(Testimony of Byron B. Norris.)

Q. You do not own any stock?

A. No. In order to represent this corporation before the Corporation Department of the State, it is necessary to be a disinterested party.

Q. Have you any agreement or interest in the outcome of, say this litigation? A. No.

Q. None whatever. In other words, you have no agreement with the Cal Bay people, the Faria's, or any other, to be paid on the basis of the outcome of this suit?

A. No.

Q. Let me ask you this last question: Yesterday when you outlined for us the land overlying this supposed gas structure that I made heavier on here, or attempted to, are we to assume from that that a well drilled anyplace on the land overlying would reach the supposed deposit?

A. Not necessarily. That is the extreme limits of the possible structure. It would be good practice to drill at the top of the structure as near [580] as possible.

Q. May we assume that this supposed deposit could be reached at other places besides this particular point where the well went down?

A. Yes, that is very probable, it could.

Q. Other places upon the lands of the Cal Bay people? A. Yes.

Q. Other places upon the lands of Mary Faria?

A. Yes.

Q. Other places upon the lands of the Alvernaz'.

A. Yes.

Mr. Bourquin: I think that is all, sir.

(Testimony of Byron B. Norris.)

Mr. Scampini: Shall I proceed now?

The Court: I think I shall excuse the Jury for a few moments. I have a criminal case to dispose of. The Jury may be excused for the usual morning recess at this time. Please bear in mind the admonition of the Court. The Court will remain in session. The Jury may be excused.

(Recess) [581]

The Court: You may proceed.

Mr. Scampini: Are you through, Mr. Bourquin?

Mr. Bourquin: Yes.

Redirect Examination

Mr. Scampini: At this time, may it please the court, I offer in evidence the report of November 1, 1943, addressed by Byron Norris, being the supplemental report to Cal Bay Corporation from which extracts have been read by counsel on his cross-examination, and I ask it be marked as our exhibit next in order.

The Court: Any objection.

Mr. Bourquin: No objection.

(The document was marked Defendants' Exhibit 30.)

[Defendants' Exhibit No. 30 appears on Pages 1257 to 1261.]

Q. (By Mr. Scampini): Are you familiar with the approximate size of the structure existing on the McDonald Island gas field across the river in the northeasterly direction from the Cal Bay Corporation?

Mr. Bourquin: Is this redirect examination,

(Testimony of Byron B. Norris.)

your Honor? It may be preliminary.

Mr. Scampini: It is in respect to counsel's questions as to the size of the structure which Mr. Norris was asked to give his opinion on.

Mr. Bourquin: All right.

Q. (By Mr. Scampini): I am now referring to the gas field on McDonald Island which is found on Defendants' Exhibit No. 11 [582] at the location indicated here, stated above the "McDonald Island." A. Yes.

Q. How many acres, approximately, are located on that structure? A. About 1500 acres.

Q. How many acres would you say and in your opinion are located, favorably located on the structure outlined by you in respect to the Cal Bay properties and Joseph Faria properties? Will you please again indicate the outlines of the anticline that you have noted on the map, and I will withdraw my first question, your Honor.

The Court: I thought you just asked him how much was included.

Mr. Scampini: I withdraw that question.

Q. Do you, or have you any opinion as to the total acreage embraced within the effective boundary of the anticline located by you on Cal Bay and Joseph Faria properties?

A. Yes. The effective limits in the anticline is about $2\frac{1}{2}$ miles, this being a section here; it is about $2\frac{1}{2}$ miles in length. The width on the side would be approximately the edge of the orange-colored part of the map, that is, the southern limit would be the edge of the orange-colored part and

(Testimony of Byron B. Norris.)

the western limit is where the anticline contacts the fault in section——

Q. That is 20.

The Witness: It is 21 here. I guess that would be section 20. Yes. [583]

The Court: How many acres, you have already outlined that in great detail; he wanted to know how much area.

The Witness: I would estimate that there are at least $2\frac{1}{2}$ sections of territory that could reasonably be considered as well up near the top of the structure.

The Court: About 1500 acres? A. Yes.

Q. (By Mr. Scampini): In the year 1943 did you observe or did it come to your attention any development in respect to the Rio Vista field across the Sacramento River?

Mr. Bourquin: I object to that. That was covered on direct examination by counsel.

Mr. Scampini: May it please the court, counsel has asked the witness questions relating to the possibility of the Sacramento River constituting a fault and thereby separating the Cal Bay property from the Honker Bay development of Standard Oil. We desire to ask the witness certain questions bearing on that phase of the testimony.

Mr. Bourquin: I think we went into it yesterday. My objection is purely that it is not redirect examination.

The Court: I think it has all been described. If there is anything you wish to call——

(Testimony of Byron B. Norris.)

Mr. Scampini: I will put it this way:

Q. How many miles from the Honker Bay gas field lie the Cal Bay and Joseph Faria properties, approximately? A. This area in orange.

The Court: How many miles? Let's see if we cannot move along. How many miles?

The Witness: This is Suisun Bay. This is the area. I would say about three miles, three and a half, possibly.

Q. (By Mr. Scampini): When you refer to Suisun Bay, are you certain you were referring to Suisun Bay, or to Honker Bay field?

A. I was referring to this field, right here.

Q. What is that? A. That is Honker Bay.

Q. How many miles in length is the Rio Vista structure, if you know?

A. It is about eight or nine miles the long way.

Q. Does the Rio Vista structure produce in commercial quantities on both sides of the Sacramento River? A. It does.

Q. Have you any opinion as to whether or not the Cal Bay structure if extended northwestward would come in contact with the Honker Bay structure?

A. Yes, I have. There is no geological indication that I have observed that would prevent a connection across there.

Q. As the result of your data and the result obtained in the course of drilling the Faria well to 4975 and based upon your knowledge of the geology of the district, have you any opinion as

(Testimony of Byron B. Norris.)

to whether or not any other probable producing gas sands underlie the Martinez formation in the Faria well?

A. Yes; the crustaceous formation would probably be productive at that location.

Q. With respect to the apex and axis of the anticline located [585] by you on the map, can you state whether or not the properties of Cal Bay Corporation and Joseph Faria, Jr. are favorably located? A. Yes, they are.

Mr. Bourquin: I object to it. I think it was covered.

The Court: He said that on direct examination. He said it was the apex before.

Mr. Scampini: For the purpose of the record, I don't think we have gone into that phase of it so far as constituting the apex of that structure.

Mr. Bourquin: I object. That has already been covered; it is not proper redirect examination.

Mr. Scampini: Has it?

The Court: I think it has been stated several times. There is not any objection to it being stated but there is no point in him saying the same thing. I think it has been covered. You have described it already for me and for the attorneys, haven't you?

The Witness: I believe I did, your Honor.

Q. (By Mr. Scampini): When you testified concerning the probable recovery in dollars from the sand being produced in the Faria well at the depth of 4268 feet, or thereabouts, and based on

(Testimony of Byron B. Norris.)

your valuation of 10 cents per thousand cubic feet you stated and figured mathematically if it produced 125,000 cubic feet a day it would bring in \$12.50 a day. A. Yes.

Q. Is it possible in the operation of a well producing gas [586] to produce gas from more than one formation at one time? A. Yes.

Q. How many formations can you produce from at the same time?

A. They could produce from as many formations as they had relative to the same pressure.

Q. What is your opinion in respect to the formation encountered at the 4975-foot depth, do you think it could be produced jointly with and at the same time as the production from up above?

A. I wouldn't recommend that. I believe it probably would have to produce—we haven't got sufficient data on that. I don't know what the bottom hole pressure is. If it would be higher than the upper sand the upper sand would be a thief sand. I mean it would take gas from the other. There has not been sufficient, or, in fact, there has not been any test made to demonstrate that.

Q. It is true, is it not, that the gas being produced or discovered in 1943 is an altogether different formation from the gas being discovered in 1944?

A. Yes, in my opinion it is.

Q. In other words, the gas which came up out of the well during the blow-out of 1944 could not possibly have been the same gas as was discovered in 1943? A. No, I do not think so.

(Testimony of Byron E. Norton.)

Q. You were asked a question as to whether or not anyone owning property on that portion of the structure which is indicated as existing on the miocene formation, if they were sitting there would they be sitting on top of a Kernoman Hills. [187] and you said, "By no means could it be so assumed." Will you state whether or not there is any structure observable on any of the property embraced within the color representing the miocene formation?

A. It is a part of the anticlinal structure and it is shown there, but most of it is well down on the flank of that structure, but the fact the miocene outcrops there on the edge of the structure and the flanks would indicate to me that any oil or gas in that formation would have been exhausted. I wouldn't recommend drilling on that at all.

Q. And on the axis or apex of the structure located by you on the Oull Bay and Joseph Faria properties do any miocene formations appear there at all? Take the apex——

A. No, not at the apex.

Q. What appears there? A. It is eocene.

Mr. Bourquin: I submit that was all covered, your Honor.

The Court: It seems so to me.

Mr. Bourquin: He went into all of this and described the anticline and the apex.

Q. (By Mr. Scamman): On the geological map upon which you have outlined the structure you have marked in heavier pencil the approximate

(Testimony of Byron B. Norris.)

location of the properties leased by Cal Bay Corporation. Will you now mark the approximate location of the properties leased by Joseph Faria, Jr.?

A. Mr. Faria had the Mary Faria property, the Alvarnez—— [588]

Q. Wasn't the Cal Bay property referred to by you just now? A. Yes.

Q. The Joseph Faria leases retained by him, will you please indicate them on the map?

A. Oh, outside the Cal Bay. He retained a portion of the Mary Faria property and a portion of the Geraldine Faria property.

Q. Please mark in pencil the outlines of them.

A. I can do that better on the other map, here.

Q. I would like to ask you to indicate the Joseph Faria property on your geological map and the anticline. Here are some colored pencils.

A. As I understand, this portion right here, that is, a portion of the south half of the southwest quarter of Section 21, is retained by Mr. Faria, and the Geraldine Faria property, there would be all of the southwest quarter of Section 22 and an irregular portion of the south half of the northwest quarter of Section 22 in this manner (indicating).

Q. With respect to the apex and anticline of the structure, can you state whether or not the Joseph Faria leases that you have just indicated on the map are favorably located?

A. Yes. The first one mentioned, the anticline runs right through the property, and the second one, it runs through the corner of it, the apex of the anticline.

(Testimony of Byron B. Norris.)

Mr. Scampini: I think that is all, your Honor, if you will just pardon me a minute. That will be all.

Mr. Bourquin: Before Mr. Norris leaves, if he is going to leave now, may I ask Counsel if we may see that Goudkoff report that the witness referred to of the micro-paleontology test at 4,823?

Mr. Scampini: At this time I offer in evidence as our exhibit next in order the Goudkoff report, your Honor.

Mr. Bourquin: May I see it, please?

Mr. Scampini: I ask that it be accepted as our exhibit next in order.

Q. (By Mr. Bourquin): May I ask you a question concerning [589] this, Mr. Norris, please?

The Witness: Yes.

Mr. Bourquin: I am not objecting to the offer—in fact, I want the report in evidence, your Honor.

The Court: Do you wish to have it marked at this time?

Mr. Bourquin: Yes.

(The report in question was thereupon received in evidence and marked Defendants' Exhibit 31.)

[Defendants' Exhibit 31 appears on page 1262.]

Recross-Examination

By Mr. Bourquin:

Q. Was the Goudkoff analysis or conclusion that you repeated made from an examination of fossil or organic matter in the core?

(Testimony of Byron B. Norris.)

A. The cores were submitted to him and he made an examination. He has both the statements in regard to that, and also from the lithology.

Q. Does he come to a conclusion from the organic or fossil matter in the core or not?

A. No, he comes to the conclusion from the appearance of the core as compared with other cores in the area.

Q. You mean from looking at it? A. Yes.

Q. Is that what lithological means?

A. Yes.

Mr. Bourquin: I would like to read this report, your Honor. It is addressed to Mr. Byron B. Norris, 1009 Subway Terminal Building, Los Angeles, California.

“Cal Bay Corporation, Faria No. 1 Well, Report on examination of two cores from 4,823 to 4,843 interval. [590] Formation 4,823 to 4,843. Dark, gray, impure sand grading into massive sandy shale. Contains no organic remains except scattered carbonaceous particles.

“Remarks: Because of the lack of diagnostic organic remains, the age of the formation represented by samples cannot be determined. Lithologically, the samples resemble some of those obtained from the cerros member (megabus stage of Clark & Vokes) cored by the Standard Oil Community No. 1.

“Respectfully submitted, Paul Goudkoff.”

That is all from the witness, your Honor.

(Testimony of Byron B. Norris.)

Further Redirect Examination

By Mr. Scampini:

Q. Mr. Norris, one question in respect to this: What is the Suisun No. 1 Well referred to in the report of Mr. Goudkoff?

A. That is the Standard Oil well across the bay.

Q. Across the bay where?

A. Across the bay from the Cal Bay property.

Q. At what field?

A. The Suisun Bay field.

Q. Where is the Suisun Bay field in relation to the Cal Bay?

A. There are two fields, of course, in that Suisun Bay. This would be the Suisun Bay field here (indicating on map). This is ordinarily known as the Honker Bay.

Q. How many miles approximately, across the river from the Cal Bay property is the Suisun Bay Community No. 1 Well? [591]

A. I would say it was about five or six miles.

Q. Is the Suisun Bay gas field a commercially productive gas field? A. Yes.

Mr. Scampini: That is all.

Mr. Bourquin: No further questions.

Mr. Scampini: I have one more expert on the geology of the structure and then I wish to put on my valuation expert.

The Court: Is this expert going to cover the same ground?

Mr. Scampini: Approximately; independent investigations made by him for the purpose of checking. I call Mr. John P. de l'Eau.

Mr. Bourquin: So we may plan for our own case, may we ask how many witnesses will follow this one?

Mr. Scampini: There will be two witnesses, two valuation experts.

Mr. Bourquin: Two in addition to the gentleman you just called?

Mr. Scampini: Yes. I may have a fifteen or twenty-minute examination of one of the previous witnesses, but perhaps not. At any rate, I hope to be finished in a reasonably short time.

The Court: That means four experts in this case. That is too many, Counsel. I must again say we should have covered this matter in a pre-trial conference. I find myself [592] somewhat neglectful of it for not having done so. How many witnesses does the Government propose to present?

Mr. Scampini: May it please the Court, the expert that I desire to produce now will testify as to actual observations made by him and the conclusions that he reached with respect to whether or not a commercial discovery of natural gas has been made on this property, and I feel it is one of the essential features of my case. I feel that is one of the most important issues in this trial.

The Court: You have already just put a witness on to do that. There is no limit to the number of experts that any side may produce in a case, that is,

no limit in numbers, that is why the discretion is vested in the Court in these cases to limit the number in some way, because if you can produce four, you can produce ten, fifteen or twenty. I have rarely seen the case where the other side could not duplicate that, doing the same thing, which leaves the poor jury in the position of being more confused than ever, which is not the purpose, of course, of a trial. I will allow this witness to take the stand if you will confine him precisely to some specific matter that you wish to go into, without taking up a lot of time with him. Otherwise it is simply cumulative and will lead the Government to produce, so they can say to the Jury they have produced as many experts in number as you have, the same number, and that is not conducive to the [593] accomplishment of justice.

JOHN P. de l'EAU

called as a witness on behalf of the defendants: and being first duly sworn, testified as follows:

Direct Examination

By Mr. Scampini:

Q. Mr. de l'Eau, what is your profession?

A. Engineer and geologist.

Q. From what school did you graduate?

A. I did not graduate. I have a high school education and I have had two years experience with the Lowell Engineering School in Lowell, Kentucky.

(Testimony of John P. de l'Eau.)

We had a three-year course there, which is equivalent to about four years in university work.

Q. How long have you engaged as a geologist and petroleum engineer?

A. Over forty years.

Q. For what companies have you worked as a geologist?

A. In Kentucky I worked for the Louisville and Nashville Railroad for two years in the engineering department, working on underground surveys for coal mines and related geology. Then in 1906 I was sent to California by an eastern company to report on the sandstone deposits in the Sespe Canyon in Ventura County, which at that time was a commercial product for building purposes. While doing this work I made the acquaintance of a good many oil companies operating in Sespe Canyon, and I decided after I finished my report to these [594] eastern people to stay in California. I have done underground work in tunnels and dam foundations for the Southern California Edison Company, the Arrowhead Reservoir Company, and that work also provided that I should interpret the geology that the tunnels cut through, so they would know what thickness of cement to line the tunnels with.

I did work for the Union Oil Company, the Associated Oil Company, now the Tidewater; I was director and geologist for the Globe Petroleum Corporation, and I have done work for the Wilshire Oil Company, also on Signal Hill for a good many companies there. I have gone east to Oklahoma, Texas, Idaho, Oregon, Wyoming, Montana and

(Testimony of John P. de l'Eau.)

Utah. A good deal of my work has been in conjunction with industrial geology related to deposits like paint deposits, cement deposits.

I have done a good deal of work in Nevada in Kaolinite deposits for the Burbank China Company in Los Angeles; also silicate deposits for the United Byproducts Company of Los Angeles.

I have done work all over California for the various companies. In 1915 I had a client in London, England, Mr. Hatley Chapman, that I did a great deal of work for in California, and reported on properties in Montebello, made appraisals, and jumping over the years, in 1936 I was retained by the Board of Supervisors of Santa Barbara County and the Board of Army Engineers working under Major Wyman to make an economic survey of all the physical properties in the Santa Maria Valley, covering over 100,000 acres, the total valuation of that property, which was over \$118,000,000. I did all the geological work, made all the maps, had charge of all the field men doing that work.

In 1914, before the formation of the present division of oil and gas, I was retained by the water control board of nearly all the companies in the Santa Maria section that made up a committee which was designated as the Water Control Board, and I made a peg model and a ditch control survey for the elevations of the wells. I made cross-sections and constructed a peg model of the whole field, the purpose of that study being to study the infiltration of water. [596]

(Testimony of John P. de l'Eau.)

That was before the formation of the Division of Oil and Gas in this State, and the State had no control over water as they do now. That is up to the present. In the last four years I have been associated with John H. Wentz, Jr., a geological service.

Q. In the course of your activities have you discovered as a result of your own work any oil fields in California?

A. I drilled five wells of my own. I drilled three in Santa Fe Springs, two of which were over a thousand barrels. I had a major interest in my own money in those wells. I drilled one of my own in the semi-tropics with a partner, Joe Kerwin, and I drilled one in Edison Field. I discovered the Edison Field in 1927, which I afterwards sold out to the General Petroleum and Richfield.

Q. Have you made a geological study of the property leased by the Cal Bay Corporation and Joseph Faria, Jr., upon which was drilled the Faria Well No. 1?

A. I have.

Q. When did you commence that study?

A. In the latter part of December I got a telephone call——

The Court: December of what year?

A. 1944.

The Court: That answers that. What is the next question?

Q. (By Mr. Scampini): When did you appear at the location for the first time?

A. The day after Christmas 1944.

(Testimony of John P. de l'Eau.)

Q. What did you first observe upon your arrival at the well?

A. Mr. Wentz accompanied me on this trip. We met Mr. Faria—— [597]

The Court: Don't get into that. Just say what you saw.

The Witness: We went out in the field and we saw the formation was sedimentary. There was no negative formations—I mean by that granite or other rocks that would interfere with the proper structure, and that the formation was marine.

Q. Did you make any observations, or note anything unusual at the well, itself, when you first arrived?

A. We went up to the well. The gas was leaking around the control head. It evidently was not very tight.

Q. Did you thereupon proceed to make a geological survey of the structure?

A. Well, about two weeks after——

The Court: Answer "Yes" or "No."

A. Yes.

Q. (By Mr. Scampini): When did you start your work? A. January 15th.

Q. What did you do for that purpose?

A. I went up, myself, and took my pocket transit and clinometer, which I used in the field, drove around the fields and walked the beds; but prior to that I had made a research of all the publications and private reports in the area, so I would have something to base my work on in order to save as much time for my client as I could.

(Testimony of John P. de l'Eau.)

Q. In the course of your activities did you study the geology of the rocks and formations exposed in that vicinity? A. Yes.

Q. I will now refer you to the map which is on the stand, here, [598] Defendants' Exhibit 10, and I ask you whether or not in the course of your studies and observations you located an anticlinal structure? A. I did.

Q. Will you please indicate with respect to the map, Defendants' Exhibit No. 10, the approximate location of the anticlinal structure found by you to exist there?

The Court: Counsel, are you going to go over the same matter again that counsel for the Government said there was no dispute about, the nature of the structure?

Mr. Scampini: If counsel will stipulate to that, I will be prepared to accept the stipulation.

Mr. Bourquin: Your Honor, in general I do not think there is any dispute as to this. I think if the matter becomes of importance, we would say that Mr. Norris was mistaken in his placement of both beds and the upper structure, but generally——

The Court: I do not see why we have to go to the map and go all over this business of describing this country again. Can't you get this witness to state what his opinion is as to the nature of this particular property? Just have him state it, and I will say in advance that if counsel on the other side objects because the proper foundation has not been laid, I will overrule it, because we have had too much talk about it already. Just get right down to

(Testimony of John P. de l'Eau.)

it and let him tell us what his opinion is as to this particular structure. Will you do that?

The Witness: Yes. It is my opinion, and that of my partners. [599] also, that this is a major structure that has definite dips on both sides. It has a plunge to the northwest, and covers an area somewhere around 1500 acres, which we think is potential gas land. We were furnished a great deal of information in making our report, and we came to the conclusion that there was a gas discovery there.

Q. At what depth? A. 4975.

Q. In what formation? A. Martinez.

The Court: Mr. Scampini, I want to repeat again, so there will be no misunderstanding, that I am not trying to shut you off. You can ask him to give his reasons for it. I wanted him to get down to it and then give his reasons.

Q. (By Mr. Scampini): Please give your reasons and the factors you have taken into consideration in arriving at that opinion and conclusion.

A. Well, the first thing a geologist does when he goes out in the field is to determine if the beds are sedimentary, and whether the sedimentary beds are marine. There is a difference between fresh water sediments and marine sediments. These sediments were marine. I found evidence of fossil—flora and fauna, as we speak of it—and it had dips on both sides; it had a definite plunge to the northwest. I found a fault in Willow Pass. There was one in Kirker Pass, which definitely showed a closure on

(Testimony of John P. de l'Eau.)

the east, which would justify the conclusion that a structure was there, because the structure had a plunge to the northwest. There was no volcanic action really except along the fault on the [600] southwest flank that Mr. Norris described, which was evidenced by basalt flows through that fault. That could be traced quite a long ways by sinks and depressions, which are indexes to the location of the fault line. That was my reason for it.

Q. In arriving at your opinion that a major discovery of natural gas was made on this property, did you take into consideration the results obtained in the course of drilling the Faria Well No. 1?

A. Say that again?

(Question read.)

A. Yes.

Q. Did you make a study of all the incidents that occurred in connection with the drilling of the well? A. Yes.

Q. Did you prepare a cross section of the anticlinal structure located by you at this location——

The Court: I think perhaps you might put that in evidence. I suppose you want to do that after the recess?

Mr. Scampini: Very well.

The Court: We will take the noon recess at this time, ladies and gentlemen. I will ask you again to bear in mind the admonition of the court. We will resume at two o'clock.

(A recess was thereupon taken until two o'clock p.m.) [601]

Afternoon Session, January 30, 1947, 2 p.m.

JOHN P. de l'EAU,

recalled.

Direct Examination
(Resumed)

The Court: You may proceed.

Mr. Scampini: Mr. de l'Eau, the result of the studies made by you with respect to the geology of the section embraced within the property of Cal Bay and the vicinity, did you make a geological map of the Mt. Diablo-Port Chicago-Pittsburg area embracing therein cross sections of the anticline located on the structure? A. I did.

Q. Will you please go to the blackboard? The map you are referring to as having been prepared by you—— A. This one.

Q. That is the geological map of this Mt. Diablo-Port Chicago-Pittsburg area within the Suisun Bay gas field? A. Yes.

Q. Upon what information available to you or knowledge possessed by you did you prepare that map?

A. First I did a great deal of research work on the publication, both official and private, to base my work on. Most of this work I based on the work of Professor Taft, particularly in relation to the Mt. Diablo thrust, and I carried the formations clear on through. There had not been much work done immediately in this territory. In fact, in developing this I found not very many of the geologists knew anything about the area. They didn't know an anticline was there. [602]

(Testimony of John P. de l'Eau.)

Mr. Bourquin: We ask that the last be stricken.

The Court: All right.

The Witness: I made a study from that and made the map.

Q. (By Mr. Scampini): With reference to the cross section of the anticline shown on that map to which I shall soon refer, upon what information available to you or knowledge possessed by you did you base the making of that map?

A. Well, after the aerial geology was taken it was necessary to get the log of the Cal Bay oil and also Standard Oil well Kellar No. 1 log. From the evidence given to me on those logs I made the cross sections showing the formations they were in.

Q. Referring you to the map—I now offer this in evidence as our next exhibit.

Mr. Bourquin: May I take a look at it? Mr. Scampini, would you be good enough to locate for me where the subject property is?

Mr. Scampini: Cal Bay Corporation (indicating).

Mr. Bourquin: I see. Thank you. What is the scale of this map?

The Witness: It is on here.

Mr. Bourquin: Can you tell it?

The Witness: One-half inch to the mile. I had to look at it, myself.

Mr. Chamberlin: Would your Honor care to see a copy of [603] smaller size? This is just an enlargement (handing map to the court).

(Testimony of John P. de l'Eau.)

Mr. Bourquin: May I ask the witness a question or two about the map?

Mr. Scampini: Yes.

Mr. Bourquin: On the subject of the offer.

Mr. Scampini: Yes.

Q. (By Mr. Bourquin): This cross section EF on the map, what is that meant to represent?

A. That goes through the Mt. Diablo region to the north, based on Professor Taft's work.

Q. Based on Professor Taft's work. Thank you.

Your Honor, the objection I can see to the map is apparently it offers to present material with reference to this well which belonged to Kellar, that has been called Kellar No. 1. In that respect, I wanted to object to the map, as we don't want to undertake an investigation of any other property from this. I therefore object to the introduction of the map because on that feature, on that ground, and if they want to eliminate that which appears to be a small section at the bottom, then I will not object to the introduction of the map.

Mr. Scampini: We so stipulate, your Honor.

Mr. Bourquin: In other words, at an appropriate time the cross section CD may be removed from the map.

Mr. Scampini: That is correct, your Honor.

Mr. Bourquin: May that also be done with respect to that [604] much in this cross section GH which may also purport to present geological information pertaining to Standard Oil Kellar well.

Mr. Scampini: So stipulated.

(Testimony of John P. de l'Eau.)

Mr. Bourquin: Those may be taken out. With that understanding we will not object to the map, your Honor.

(The map was marked Defendants' Exhibit 32.)

Q. By Mr. Scampini): With reference to this map, will you now state to us, Mr. de l'Eau, the approximate location of the anticline found on the property in so far as it appertains to this property?

A. That is the approximate location, that line right through here marked with double arrows indicating that it dips to the northeast.

Q. Will you please indicate there the directional axis of the anticline?

A. This direction (indicating).

Q. What line are you pointing to?

A. Pointing to the one which is indicated on the map.

Q. That is line G-H on the map.

A. That is line G-H on the map.

Q. Will you please state what the arrows which appear in relation, or crossing, rather, the line G-H, are supposed to indicate?

A. That is the symbol of an anticline that we use in geology.

Q. The arrow pointing northwestward indicates what?

A. Indicates dips in that direction and the opposite one the [605] other dip in the opposite direction taken at right angles to the axis.

(Testimony of John P. de l'Eau.)

Q. Have you got your cross sections of that geology area indicating the geologic formations found underneath from the top to the basic rock?

A. Yes; that section A-B—take A-B as the first one, yes.

Q. Referring to section A-B, what does that represent?

A. That represents the cross section line here just as if you had cut that right straight through and would look at all the formations down to the bottom; just like you cut an orange in two and you see all the contents.

Q. What does the line indicating the cross section A-B and the word "Fault" represent to the west of the words "Cal Bay Corp Faria - 1?"

A. That is the fault that was referred to by Mr. Norris as existing through the side of the hill, between the valley and the beginning of the slope of the hill.

Q. What do the lines indicate on the cross section A-B under the heading, "Cal Bay Corp Faria - 1" represent?

A. This line, here?

Q. Yes.

A. That is the well location.

Q. Will you please tell the names of the formations penetrated by Faria Well No. 1 from the beginning to the very bottom of the hole, as disclosed by your cross section?

A. I classified that as undifferentiated miocene.

Q. When you say "that" what do you refer to?

A. The miocene has not been broken down into definite phases of the same formation, [606] but it broadly embraces that.

(Testimony of John P. de l'Eau.)

Q. What do you mean by that answer? Do you mean the formation under TUM? A. Yes.

Q. The formation TUM is in yellow?

A. Yes.

Q. That is undifferentiated miocene?

A. Yes.

Q. Below that formation you have another formation, have you not? A. Yes.

Q. That is designated as TMK?

A. That is Markley shale

Q. What does that Markley belong to?

A. Belongs to the oligocene.

Q. Where does the oligocene lie with respect to miocene and eocene? A. Between the two.

Q. With respect to the formation that is immediately below the markley, the TMK, what is the next formation? A. Tejon group.

Q. What is that?

A. That embraces Domengine and Meganos.

Q. The Domengine is part of the general age denominated eocene? A. Yes.

Q. Did the well penetrate any other formation below the ones that you have just told us about?

A. Martinez.

Q. What is that designated on the cross section under a symbol? A. TMZ.

Q. According to your cross section, where is the Cal Bay Faria well presently bottomed, or where was it bottomed?

A. According to our investigation in the Martinez. [607]

(Testimony of John P. de l'Eau.)

Q. Referring to that longitudinal section G-H, other than that portion which appears under the heading, "Standard Oil Co. Kellar - 1" will you please state what that represents?

A. That represents the section in this—

Mr. Bourquin: Well, counsel, when that occurred I did not fully understand the map, I will withdraw the objection I made to the map.

Mr Scampini: Very well.

Q. Referring to the longitudinal section G-H entitled "Longitudinal section along axis of anticline," what does that represent?

A. That represents the section as if it was cut right straight through on down and looking northeast.

Q. When you say "cut right straight through on down," what do you mean?

A. As my hand designates, cut right through here and remove the south half of it, you would look at all the formations clear down to the bottom of the well.

Q. As I understand your reference, you mean if you cut the section along the axis of the anticline part?

A. Yes.

Q. There would then be exposed the formations indicated on the longitudinal section G-H?

A. Yes.

Q. What formations are exposed in longitudinal section G-H?

A. The same ones that were found on the cross section.

(Testimony of John P. de l'Eau.)

Q. Where that line marked "Fault" on longitudinal section G-H to the west of the section, what fault does that represent?

A. We indicated on our map that as the Willow Pass fault, because [608] the Willow Pass Road went through there.

Q. Please indicate upon the general map where the Willow Pass Road, which is referred to here, appears on the surface.

A. The Willow Pass—pardon me, that is the Bailey Pass Road.

Q. Where is that? A. Right here.

Q. That line embraces the Bailey Pass fault?

A. That's right.

Q. What is the fault which appears to the east of the Cal Bay Corporation—Faria?

A. That is the one.

Q. That is the Bailey Pass? A. Yes

Q. What is the fault which appears to the west on the longitudinal section?

A. That is the Willow Pass. The fault as we have it out there is not Willow Pass, we could not find it after it continued up the pass there.

Q. When you came to the Willow Pass Road, is that the Willow Pass Fault, that is the particular fault that Mr. Norris testified as occupying that line in section 20 or 21? A. I believe so.

Q. Then this map indicates the direction of the Willow Pass fault?

A. Well, near the Willow Pass there, it is only a continuation of the Mt. Diablo fault, this one here.

(Testimony of John P. de l'Eau.)

Q Then on across Willow Pass?

A. Yes.

Q. What does the point found on longitudinal axis marked "Cal Bay Corporation Faria 1" represent?

A. That is the same well indicated here on that section. [609]

Q. What is meant by the words and colors appearing under the heading "Legend"?

A. That designates the symbols in each square and a color to make it more readily read.

Q. What do they represent?

A. Qal represents the alluvium.

Q. Where do you represent alluvium on the map?

A. All this in here.

Q. That back here and out here, what is that?

A. Orindan.

Q. That part of the pliocene?

A. Yes.

Q. Where does that appear on the map?

A. That is this that is marked "Tor" (indicating).

Q. Will you read the geological formations which you found existing on the structure as indicated on that legend?

A. Well, pliocene, the Orindan; we went from Orindan, this point, to San Pablo, indicated by "TSP."

Q. Then the undifferentiated miocene "TUM"?

A. Then we have the unconformity and go into the Kreyenhagen. That is the upper part of the oligocene. Then the Markley, indicated here, that

(Testimony of John P. de l'Eau.)

is "TMK," and lower part of oligocene; then come into the Tejon group, the Domengine and Meganos and the upper part of the eocene. Then Martinez where the well was drilled, "TMZ." The next formation is Mareno, the upper part of the cretaceous, and so on down clear on through way below anything found in either one of these wells, Standard Oil well or in——

Mr. Scampini: Well, that will go out. [610]

Mr. Bourquin: No. If you want to take the burden of proving the Standard Oil well I won't object.

Mr. Scampini: I am not taking any burden. I have burden enough. I will ask you one more question. Will you state whether or not a well driven on the property of Cal Bay Corporation straight down, as was done in the case in the case of Faria Well, would normally cross all these formations that appear on your legend?

A. That's right.

Q. Did it do so in this case? A. Yes.

Q. Down to Martinez? A. Yes.

Q. Now, I have only another phase of the case to cover with the witness and it may be we can cover that by stipulation. This witness, preliminarily, I might state, computed the area of the property embraced within the various leases prior to the taking by the Navy and the area of the property taken by the Navy, and the area of the remainder. Maybe we can stipulate to all that, otherwise I will have to prove how he computed it.

(Testimony of John P. de l'Eau.)

Mr. Bourquin: Haven't you an agreement as to that with some of the Government employees?

Mr. Scampini: I will show you this. I furnished them with this map. I don't think there can be much dispute. May be we can read into the record exactly what the acreage approximates in this exhibit, here.

Q. First of all, you prepared a map showing the leases? A. Yes.

Q. And the property taken and the property remaining? A. Yes. [611]

Q. Will you please produce that map and we will offer that in evidence, and then we will just read the acreage. You have produced a map entitled, "Map showing potential oil and gas land as taken by the U. S. Navy re extension of Naval magazine Port Chicago." Is that the map prepared by you for the purpose of determining the acreage embraced within the leases of Cal Bay Corporation and Joseph Faria prior to the Navy take and the acreage taken and remaining thereafter?

A. Yes.

Q. On what information available to you did you base your map?

A. I based it on the description in the leases, and also upon Government survey, the survey in the County Surveyor's Office.

Mr. Scampini: I now offer in evidence the map

(Testimony of John P. de l'Eau.)

as our exhibit next in order, and I will read into the record the amounts involved, your Honor.

The Court: Very well.

(The map was marked Defendants' Exhibit 33 in evidence.)

Mr. Scampini: It is stipulated, then, counsel, I take it, that in the Mary Faria lease which had been assigned to Cal Bay Corporation, there were embraced 367.36 acres of land and that of the 367.36 acres of land 208.83 acres were taken by the Navy, leaving 158.3 acres, is that right?

Mr. Bourquin: Agreed.

Mr. Scampini: And for the purpose of the jury, I think it has already been shown to them, but will you indicate on [612] the map the Mary Faria lease to which I have just referred?

The Witness: It is this portion in here, all in green, with the exception of these two small pieces, five acres and 4.96, which together total 318.79.

Q. We will come to that. Does the lease of Mary Faria also embrace the portions outlined up above the green?

A. Yes, here, and here, and back here (indicating).

Q. With reference to the Albert Faria lease, Parcel 58, 5 acres were embraced in that lease and all of those 5 acres were taken by the Navy.

Mr. Bourquin: Yes.

Mr. Scampini: With reference to the Mae E. Roche lease, which is Parcel 57 in the complaint,

(Testimony of John P. de l'Eau.)

4.96 acres of land were embraced within the lease, and all of that land was taken by the Navy.

The Witness: Yes.

Mr. Scampini: With respect to the M. V. Alvernaz piece, 310 acres embraced in that lease, and no portion thereof was taken by the Navy?

The Witness: Correct.

Q. Could you indicate the Alvernaz property?

A. Right here, in light green; here and here.

Q. After the Government, or the Navy having taken the property which is the subject of the action—may it be stipulated, Mr. Bourquin, that 208.83 acres were taken? Have I covered that? [613] Well, with respect to the Joseph Faria leases retained by him, under the Mary Faria lease 73.51 acres were embraced within his lease prior to the taking of 63.92 acres, leaving 9.60 acres.

A. (By the Witness): That's right.

Mr. Scampini: Will you indicate on the map where that lease, where that lease is? That is in yellow?

A. Yes.

Q. The 9.60 represents the property retained or not taken from Joseph Faria?

A. That's right. 63.91 acres, indicated there (indicating).

Q. With respect to the Geraldine Faria lease, Parcel 64 in the complaint, 228.55 acres were embraced within the lease of which approximately .65 of an acre was taken, leaving 227.90 acres remaining?

A. Yes.

Q. Will you point that out?

(Testimony of John P. de l'Eau.)

A. Yes. This is the Geraldine Faria Cal Bay, out here, and .65 acres indicated here.

Q. Does the map indicate the property involved within the lease of Joseph Chavez, retained by Joseph Faria? A. Yes.

Q. That is Parcel 71, that is at the southeast corner of the map; is that right? A. Right.

Q. In the leases there were originally embraced 414.19 acres of which the Government or Navy took 177.34 acres, leaving 236.85 acres. A. Right.

Q. Will you indicate the portion taken and the portion not taken also?

A. This is the total lease, running clear around; this is the portion——

Q. The portion marked yellow? A. Yes.

Q. The line which appears to the north starts under the words "Frank S. Dutra," entitled, "Parcel 60," and running generally southeast, then goes a little to the northeast; does that represent the northern boundary line of the Navy take?

A. Yes.

Q. The line which is entitled or marked as a fault on the map running generally from east to west and parallel to the northerly boundary line of the Navy take, what fault does that represent?

A. That is the Monte Del Diablo fault, or the one referred to by Mr. Norris.

Q. Appearing on that map where?

A. Right here, marked "Fault" here.

Q. Running just parallel to the general trend of the structure? A. Yes.

(Testimony of John P. de l'Eau.)

Q. For the purpose of resume, it will be stipulated that the total acreage embraced within the leases owned by Cal Bay Corporation prior to the Government taking the property aggregated 687.32 acres, of which 218.79 in all were taken, leaving 468.53 acres not taken. Is that correct, approximately?

Mr. Bourquin: I did not follow your computation. Will you give me that again? What was the figure you said?

Mr. Scampini: The aggregate of 687.32 acres.

Mr. Scampini: You may take the witness.

Cross-Examination

By Mr. Bourquin:

Q. Mr. de l'Eau, had you been at the property at any time before December 26, 1944?

A. No, I never had.

Q. So that would be clear; in other words, your first visit to the property was at the end of the year 1944?

A. That is right.

Q. With that visit did you remain and make your explorations or did you go and return?

A. No, at first—what I did, I looked up Mr. Faria to see if we would get our money first.

Q. Then did you go ahead and make your exploration of that matter, or did you go back to Los Angeles?

A. I went back to the office and looked up the regional geology to estimate how long it was going to take to do this work, and then I returned to the field on January 15.

(Testimony of John P. de l'Eau.)

Q. And made a geological survey?

A. Yes.

Q. Or investigation? A. Yes.

Q. I gathered from what you testified you came to the conclusion that there was a geological structure present capable of holding a commercial gas deposit; that was your conclusion?

A. That is right.

Q. Had you ever engaged or been associated with any oil or gas exploration in northern California before? A. Yes.

Q. Where, please?

A. I have made reports from Tehama [616] County to Sacramento on the gas fields in the northern part of this state.

Q. Did you ever take part in an enterprise as an associate or advising geologist in any gas or oil exploration in northern California? A. Yes.

Q. For whom, please?

A. I was associated with Mr. Ward B. Blodgett. We did some work up north.

Q. Maybe you misunderstand me.

A. No companies.

Q. No companies? A. No companies, no.

Q. You had never before been associated with any company making an exploration for oil or gas in California?

A. No, we work on a consulting basis.

Q. Had you ever been associated with any individual who did any exploratory drilling in northern California before?

(Testimony of John P. de l'Eau.)

A. You mean as a financial associate, or just what do you mean there?

Q. Let us get it by degrees. Did you ever do any exploratory drilling? Did you ever drill an oil or gas well in northern California?

A. No. I never drilled one up there.

Q. Did you ever in the capacity of engineer or geologist participate in drilling a well for oil or gas in northern California before? A. No.

Q. You never had? A. No.

Q. In coming to your conclusion that there was a gas discovery made here, do you predicate your opinion on the same practice [617] that Mr. Norris enumerated here to us?

A. I don't recall just what he said.

Q. Did you hear him testify?

A. Yes, but I don't recall the answer or the question.

Q. Have you discussed the subject with Mr. Norris at any time?

A. Oh, during the preparation of our report, why, we naturally asked him for information, because I didn't get his report until I had done this field work. I didn't know he made one before.

Q. You did not know he had made a report until you made yours?

A. Mr. Faria said he had a report. Mr. Faria said he would send me the report, but I did not get it until I had finished my work.

Q. You knew he had made a report, but you did not get it?

(Testimony of John P. de l'Eau.)

A. I knew he had done the work. He was going to send me the report, but I did not get it until after my field work was completed.

Q. In other words, you mean that Mr. Norris had made an investigation and report, but you did not wait on that to make your own investigation and report? A. That is right.

Q. Had you afterwards consulted with Mr. Norris and compared your notes and findings on the matter? A. Naturally.

Q. Do you agree? A. Yes.

Q. In all major respects in this matter you are agreed, are you? A. That is right. [618]

Q. Were you here in court this morning?

A. Yes.

Q. Were you here in court yesterday?

A. Yes.

Q. Did you hear Mr. Norris enumerate the four factors on which he predicated his opinion that there was a commercial discovery here?

A. Yes.

Q. Do you agree with him there? A. Yes.

Q. Do you predicate your conclusion on any different factors?

A. No, those are the controlling ones.

Q. Those are the controlling ones?

A. Yes.

Q. I won't stop to recite them? A. Yes.

Q. On the subject of this cross-section map, Mr. de l'Eau, from what evidence did you base your

(Testimony of John P. de l'Eau.)

analysis of the respective—what do we call them, formations or beds? A. Yes.

Q. Formations—— A. Yes.

Q. ———that you conclude were present in the Cal Bay exploration? A. That is right.

Q. Upon what evidence do you base your report?

A. Do you mean the sub-surface geology or the surface geology?

Q. The sub-surface geology?

A. I based it on the Standard Oil well log, the Cal Bay well log, and also the formations given in Professor Taft's report on the Mt. Diablo region.

Q. Upon what evidence did you base your conclusion that at [619] 4,975 feet the well was in the *martines*?

A. Well, I will tell you. I didn't get up there until after the well had finished all this. I went over and looked at some of the cores, but they had already been moved off the property preparatory to abandoning, and they were away over on another property, Brentwood, and I tried to get some of them, but they were so mixed up I couldn't do it. Then after that I went down and talked to Mr. Pickett of the Union Oil Company at Bakersfield, whom I understood had worked with Mr. Glenn Ferguson on this.

Q. Yes, but I do not want you to tell me what somebody told you, because we will have to go out and find the man then. I want you to tell me what evidence you had, something that you saw——

A. Nothing.

(Testimony of John P. de l'Eau.)

Q. —upon what you predicated your conclusion that the well at the depth of 4,975 feet on November 25, 1944, was in the Martinez formation.

A. Well, I based it on the Cal Bay electric log compared with the Standard Oil log, and also the fact the stratigraphy of that region showed approximately around 5,000 feet they should be in the Martinez.

Q. Let us take that by degrees. Was there any electric log run on the Cal Bay well in 1944?

A. I have a copy of the log, but you will have to look on there to see the date on it. The log I have only went to 4,343, I think. [620]

Q. You will agree with counsel that there was no electric log data below 4,343?

A. That is right.

Q. Let us eliminate that. Then, what other, if any, basis did you have for your conclusion—

A. The Standard Oil log.

Q. The Standard Oil log? A. Yes.

Q. You mean that Standard Oil experience over in Honker Bay?

A. No, the Keller well three miles southeast.

Q. Three miles southeast? A. Yes.

Q. In a dry hole? A. Yes.

Q. Did you have any other basis for concluding what formation Cal Bay was in at 4,975 feet?

A. I made a section between the Standard Oil well crossing the fault through the Cal Bay well—we made studies of that, which I have here, preparatory to putting them on this map.

(Testimony of John P. de l'Eau.)

Q. In other words, you mean it was a process of analysis? A. That is right.

Q. Of what the Keller had, and translating it geologically to what should be present in Cal Bay at 4,975, is that correct?

A. That is right, because the Standard Oil log had the paleontology furnished.

Q. Is that an infallible method of ascertaining?

A. It is just as perfect as we can get it.

Q. Do you feel that is perfect? A. Yes.

Q. Did you pay any attention to this micro-paleontologist's [621] information, or do you know there was such existing?

A. No, it would not have made any difference in my final analysis.

Q. It would not have made any difference?

A. No.

Q. Let me ask you this: If the fact were that at 4,400 feet the Faria well had penetrated the cretaceous, where then would you say they were at in deeper level?

A. They penetrated the cretaceous at forty-three? They would still be in the cretaceous.

Mr. Bourquin: That is all.

Mr. Scampini: That is all.

The Court: I just wanted to ask you a question, if I may.

Q. Did you ever give any opinion to any oil company as to the purchase of any property?

A. Yes, I have. That naturally comes along in my work.

(Testimony of John P. de l'Eau.)

Q. (By the Court): What oil company?

A. (By the Witness): Oh, I have advised with nearly every company near Los Angeles except the majors—the Standard, and so on, they have their own methods.

Q. (By the Court): You do not tell them what to pay for it?

A. (By the Witness): No. Sometimes they ask me. You know, as appraisers, we generally know pretty well what values are, and some of our clients will say, “Do you think we are paying too much for that?” or other problems.

Q. (By the Court): On the strength of what you examined, would [622] you advise any company or group of people to buy this property?

A. Absolutely.

Q. (By the Court): You would?

A. (By the Witness): Absolutely.

Q. (By the Court): On what you thought should have been down there?

A. (By the Witness): That is right.

The Court: That is all.

Mr. Scampini: That is all.

Q. (By Mr. Bourquin): I take it your advice then again would be based upon the four factors upon which your conclusion of discovery of gas was made, wouldn't it?

A. Yes, that is right.

Mr. Bourquin: That is all.

Mr. Scampini: I call Mr. John H. Wents.

JOHN H. WENTS, JR.

called as a witness on behalf of the defendants; and being first duly sworn, testified as follows:

Q. (By the Clerk): State your name to the Court and Jury, please? A. John H. Wents.

Direct Examination

By Mr. Scampini

Q. Mr. Wents, what is your profession?

A. Consulting petroleum engineer and geologist.

Q. How long have you been engaged in that profession?

A. The practice of geology for approximately twenty years, and [623] as a consultant for the last nine years, approximately.

Q. In the practice of geology, for what companies have you done work or did you work?

A. I worked for a great many companies.

Q. Just name some of them.

A. I have been employed by the Associated Oil Company, the Marlin Oil Company, the C.C.M.O. Oil Company, the McMillan Oil Company, J. Paul Geddy, who as an individual has controlling interest in the Skelly Oil Company, the Pacific Western Oil Company, the George F. Geddy Incorporated, and a considerable holding in the Tidewater Associated Oil Company.

I have worked for Lloyd Gilmore, who represents the Eastman Dillon Company of New York. I worked for various banks. I worked for the United States Government. I worked for the County of

(Testimony of John H. Wents, Jr.)

Los Angeles and independent operators, probably 25 operators in all.

Q. Have you supervised the drilling of oil wells during your career?

A. As a petroleum engineer?

Q. As a petroleum engineer.

A. In the last five years I probably drilled in the order of two hundred wells.

Q. Have you made appraisals of oil or gas properties?

A. Outside of the direct supervision of petroleum engineer and of oil field development, my principal work is involved in the appraisal of oil, gas and mineral properties.

Q. For what companies, or for whom have you made appraisals [624] during the last, let us say, five years?

A. I might have mentioned previously that I am employed as a consultant for the Dominguez Estate Company, the Watson Land Company, and the Carson Estate Company. Those companies are some of the principal owners of oil lands in southern California. And in the course of my employment for them I have prepared appraisals of their entire oil and gas holdings, that is, for each of those companies.

In the case of the United States Government, No. 2454-B Civil, which is the appraisal of the Playa Del Rey, I prepared appraisals for the Block Oil Company and the McAdams Oil Company. I am engaged in the work of preparing appraisals of Thomas and L. C. Kelly, Well No. L. and T. No. 1,

(Testimony of John H. Wents, Jr.)

of the Treasure Oil Company, Well No. 8, of the Samarkland Oil Company, Well, No. 1. Those are in the process of preparation, being a part of my contract with the Government with respect to the case I mentioned.

Q. With respect to the case you have mentioned, if I may interrupt, are you acting as an appraiser for the United States Government or the property owners?

A. I am employed by the Attorney General's office, the United States Attorney General's office, in the matter. I have appraised a lot of royalty interests, that is, in wells scattered throughout the entire oil area of California, and in connection with other work I prepared a geologic report and appraisal of 39.37 acres [625] of land in the City of Long Beach. That was prepared for the Attorney's office of the Southern District of California, Federal Land Division.

I have made appraisals for Arthur Anderson and his wife with respect to land in the Coalinga-Riverdale oil fields. That appraisal work was in the preparation of an appraisal for use in inheritance tax purposes.

I have appraised and been engineer and geologist for the H. M. Holloway interests. H. M. Holloway, Incorporated, is the largest producer of gypsum, agricultural gypsum in the United States. In fact, it produces in the order of 68 per cent. I have been in charge of his geological exploration work, and in connection with that exploratory work we have

(Testimony of John H. Wents, Jr.)

the right as the result of a discovery to claim discovery value and get depletion allowances for income taxes. So I have done Holloway's work.

I have appraised the holdings of the St. Francis Oil Company for the purpose of obtaining a loan on the part of that company from the Reconstruction Finance Corporation.

I also appraised the oil development of George B. Nortonholt. Mr. Nortonholt used to be the head of the Division of Lands of the State of California.

I appraised land for the County of Los Angeles. That report was prepared at the request of John H. O'Connor of the County Council. [626]

I prepared geologic reports, for example, on areas such as the South San Diego area. That was a report prepared down there for Robert Eaker, Warren Thomas and James Crofton.

I prepared appraisals for the Balsochico Oil Company. I appraised the Snow lease in the Temescal Oil field. I appraised the mineral rights in a leasehold interest of the Candua Company, Limited, undeveloped potential mineral lands in Fresno County.

I appraised the lands within the Muroc Bombing Range for the Federal Government. That is a matter of clay resources, principally.

Q. Have you engaged in the purchase and sale of oil leases?

A. No, I have not really engaged in the purchase and sale of oil leases, but I have been con-

(Testimony of John H. Wents, Jr.)

sulted with respect to the value of properties which were being traded.

Q. Can you say the same thing with respect to royalty interests?

A. The same thing can be said with respect to my experience.

Mr. Scampini: I think it can be stipulated he is a qualified valuation expert.

Mr. Bourquin: He said he never bought or sold any leases. You go ahead. You will have to stipulate to that yourself.

Q. (By Mr. Scampini): Is there anything further you can say with respect to your qualifications?

A. Well, I don't know. It has been a very broad experience in working for major [627] companies and working for independent companies, in working for banks—I forget to mention that I have been employed to appraise for the Chase National Bank of New York, for the Corn Exchange Bank of New York, for the Citizens Bank of Los Angeles, for the California Bank of Los Angeles.

Q. By appraisals do you mean properties involving or containing either oil or natural gas or other minerals?

A. Or having no potentialities whatsoever.

Q. Have you made any appraisals for any persons or corporations buying royalty interests in oil and gas leases?

A. Yes, I made many of them.

Q. How many would you say you have made of those in the last five or ten years?

(Testimony of John H. Wents, Jr.)

A. In the last ten years? Perhaps a thousand.

Q. Would you say in the State of California or outside the State of California?

A. With respect to royalty interests, I have engaged only in the work in the State of California. I might add in respect to investigation, I made an investigation of parts of Oregon for the Pacific Western Oil Company and George F. Geddy.

Q. Have you made any appraisal of the properties leased by Cal-Bay Corporation located on the map which is on the bulletin board there in Contra Costa County near Pittsburg?

A. I made an appraisal of the properties of the Cal-Bay Corporation. [628]

Q. In the course of that appraisal, what properties did you appraise?

A. I appraised the Faria property known as Parcel No. 59, I believe, in this action. I appraised the Edward Faria property, known as Parcel No. 58 in this action. I appraised the Mae E. Dutra property known as Parcel No. 57 in this action.

Mr. Scampini: That is also known as Mae E. Roche, is that right, Counsel?

Mr. Bourquin: Yes, that is agreed.

The Witness: I also appraised the Manuel Alvernaz property. There is no appraisal number given with respect to that property, because it was not touched directly by the taking.

Q. (By Mr. Scampini): With respect to the property or the leases of Joseph Faria, Jr., located

(Testimony of John H. Wents, Jr.)

immediately adjoining the Cal-Bay leases, what properties or leases did you appraise?

A. For Joseph Faria, Jr., I appraised the Mary Faria property known as Parcel 59, the Geraldine Faria property known as Parcel 64 in this action, the Ralph D. Bollman—no, I did some work on the Ralph D. Bollman and it was omitted from my appraisal. The Joe Chevez property known as Parcel 71.

Q. And did you make an appraisal of the royalty interest of Mary Faria under her lease?

A. I made an appraisal of the royalty interest of each of the parties under each of the leases that I have mentioned.

Q. Are you familiar with the total acreage of land embraced [629] within the Mary Faria lease owned by Cal-Bay Corporation prior to the Government, Navy, taking as a result of the present action?

A. I am familiar with the total acreage of that parcel.

Q. Are you also familiar with the amount of acreage taken by reason of the Navy taking in this action from the Mary Faria lease which had been assigned and was owned by Cal-Bay Corporation?

A. Mr. John de l' Eau, who just testified here, and I worked on this together, and I am familiar with all those acreages.

Q. Do you know the definition of "fair market value?"

A. I do.

Q. What is that definition?

(Testimony of John H. Wents, Jr.)

The Court: You are not going to have him tell us what the law is?

Mr. Scampini: Very well, your Honor, I will withdraw the question.

Q. Have you any opinion as to the fair market value of the 208.83 acres of land or leasehold estate in 208.83 acres of land owned by Cal-Bay Corporation in the Mary Faria lease taken by the Navy pursuant to this action as of January 15, 1945?

A. I have an opinion.

Q. What is that opinion? A. \$217,138.

Q. Have you an opinion as to the fair market value of the leasehold estate of Cal-Bay Corporation in the 5 acres of land [630] embraced within its lease from Edward Faria taken by the Navy pursuant to this action and represented by Parcel 58 in this action as of January 15, 1945?

A. May I hear that question again?

(Question read.)

A. I have.

Q. What is that opinion? A. \$3,875.

Q. Have you an opinion as to the fair market value of the leasehold estate of Cal-Bay Corporation on the 4.96 acres of land embraced within the lease owned by it from Mae E. Dutra Roche, represented and taken by the Government pursuant to this action in Parcel 57 as of July 24, 1944?

A. I have.

Q. What is that opinion? A. \$3,644.

Q. Have you formed any opinion as to whether or not the leasehold estate of Cal-Bay Corporation

(Testimony of John H. Wents, Jr.)

in the 158.53 acres of land retained by it in the Mary Faria lease after the Government taking of 208.83 acres was damaged in any amount by reason of the Government taking?

A. I have an opinion.

Q. What is that damage?

A. I figured my values on the before and after method, and there was a decrease in the value of the worth, or the worth of the remaining property after the taking. Now, I may have been in error in my answer beforehand. I gathered you wanted the value as of the taking—not prior to the taking.

Q. As of the taking?

A. As of the taking, which would include in the before and after method the net, that is, the value before less the value after, and the answers I have given to this time have been the damage suffered by the respective parcels of land from their taking. Does that explain it?

The Court: That is more confusing than anything I have ever heard.

Q. You understand the difference between the market value of property taken and severance damage?

The Witness: I do.

The Court: Now, the values you have given us already, are they the market value of the lessees' interest? If a willing buyer came along would he pay for the lessee's interest in the so-called Maria Faria property \$217,138?

(Testimony of John H. Wents, Jr.)

The Witness: Before the taking, or after the taking?

The Court: At the time of the taking, as of that date.

The Witness: Well, then I will make a correction as to my answers, your Honor. I considered it after the taking.

The Court: What do you mean by after the taking?

The Witness: In other words, what the damage was that was suffered by reason of the taking.

The Court: I think you had better withdraw this witness and find out, Counsel——

Mr. Scampini: May I ask for a recess at this time?

The Court: Yes, we will take a recess at this time. [632]

Ladies and gentlemen, remember the admonition of the Court.

(Recess.) [632-a]

Mr. Scampini: I desire to again ask the witness, may it please the court, because the witness will reply, I think, that he misunderstood my question.

Q. Did you make a valuation of the leasehold interest of Cal-Bay Corporation and of Joseph Faria in so far as it applies to market value of the property taken plus damage to the remaining?

A. Yes, I did.

Q. Did you also make a valuation of a leasehold interest based on what is known in your profession of before and after theory? A. Yes, I did.

(Testimony of John H. Wents, Jr.)

Q. When you replied to my question as to what theory you had followed——

A. I was following the before and after theory.

Q. Do you desire to change the answer you gave?

A. I do desire to change the answer, because I misunderstood the question.

Mr. Scampini: May I ask to start from the beginning, your Honor?

The Court: Yes.

Q. (By Mr. Scampini): Have you formed, as the result of your appraisal, an opinion as to the fair market value on January 15, 1945, of the 208.83 acres of land taken by the Navy pursuant to this action, being portion of Parcel 59 embraced within the lease had by and owned by Cal-Bay Corporation, from Mary Faria? A. I have.

Q. What is that value?

A. \$411,500, in which \$234,000 was [633] included as the value of the well which was on the property.

Q. Have you formed any opinion——

Mr. Bourquin: May we have that answer read?

The Court: Yes. Read the answer, Mr. Reporter.

(The answer was read by the reporter.)

Mr. Scampini: Is it \$234,000—I think he said \$284,000, Mr. Reporter.

The Witness: \$234,000.

Mr. Scampini: I was mistaken.

Q. Have you appraised or have you any opinion as to the fair market value on January 15, 1945, of the five acres of land leased by Cal-Bay Corpo-

(Testimony of John H. Wents, Jr.)

ration from Edward Faria and taken by the Navy pursuant to this action, being Parcel 58 in the complaint? A. I have.

Q. What is your opinion as to the value of it?

A. \$3875.

Q. Have you formed an opinion as to the fair market value of the 4.96 acres of land leased by Cal-Bay Corporation from Mae E. Dutra Roche, on July 24, 1944, and taken by the Navy pursuant to this action, being Parcel 57 in the complaint?

A. Yes. I have formed an opinion.

Q. What is that opinion?

A. The amount is \$3850.

Q. Have you formed any opinion as to the damage caused to or depreciation suffered by the 158.53 acres of land remaining to Mary Faria under lease to Cal-Bay Corporation after the Government take of 208.83 acres?

A. Yes. I have an opinion. [634]

Q. What is that damage or depreciation as to that 158.53 acres? A. The sum of \$91,150.

Q. Have you formed any opinion as to whether or not the leasehold estate of Cal-Bay Corporation in the 310 acres of land leased by it from Manuel V. Alvernaz suffered any damage or was depreciated in market value by reason of the Government take of the portion of the leasehold estate of Cal-Bay Corporation?

A. I have an opinion, yes.

Q. What is that damage or depreciation?

A. That damage or depreciation is the sum of \$35,650.

(Testimony of John H. Wents, Jr.)

Q. With respect to the Joseph Faria, Jr., leases, have you made an appraisal and have you formed any opinion as to the fair market value of the leasehold estate of Joseph Faria in 63.91 acres of land taken by the Navy from Joseph Faria's lease, pursuant to this complaint, and being portion of parcel 59, said value to be fixed as of January 15, 1945?

A. I have an opinion.

Q. What is that opinion? A. \$17,575.

Q. Have you formed any opinion as to whether or not the remaining 9.60 acres of land leased by Joseph Faria from Mary Faria was damaged or suffered any depreciation in market value by reason of the Government take?

A. I have an opinion.

Q. What is that damage?

A. The damage is \$1920.

Q. With respect to the Geraldine Faria leasehold estate owned by Joseph Faria, have you formed any opinion as to the market [635] value, the fair market value of the leasehold estate of Joseph Faria in the .65 acres of land taken by the Navy as of July 24, 1944, embraced within Parcel 64 in this complaint? A. Did you say .65?

Q. .65 acres.

A. Yes. That is .65 acres. I have an opinion.

Q. What is that? A. \$175.

Q. Have you formed any opinion as to whether or not the leasehold estate of Joseph Faria in the remaining 227.90 acres of land leased by him from

(Testimony of John H. Wentz, Jr.)

Geraldine Faria suffered any damage or depreciation by reason of the Government take?

A. I have an opinion.

Q. What is that damage or depreciation?

A. \$26,200.

Q. Have you formed any opinion as to the fair market value of the leasehold estate of Joseph Faria in 177.34 acres of land owned by, or in the lease of Joseph Chavez and taken by the Government pursuant to this action, being Parcel 71 as of July 24, 1944?

A. There was only 96.59 acres of that parcel taken, according to my record.

Q. What is the value of those 96.59 acres?

A. It has only a nominal value of \$100.

Q. Have you formed any opinion as to the value of the royalty interest of Mary Faria under her lease in so far as it applies to the 208.83 acres of land leased by Cal-Bay Corporation?

The Court: How many acres?

Mr. Scampini: 208.83 acres. In so far as it applies [636] to the 208.83 acres of land taken by the Navy from Cal-Bay Corporation.

A. I have an opinion.

Q. What would be the value of that royalty interest of Mary Faria in the 208.83 acres of land?

A. \$65,250.

Q. Have you formed any opinion as to whether or not the royalty interest of Mary Faria in the 158 acres, more or less, retained by her that is not taken by the Navy from Cal-Bay Corporation was damaged or suffered any depreciation by reason of the Government take of 208.83 acres?

(Testimony of John H. Wents, Jr.)

A. I have an opinion.

Q. What is that opinion?

A. That opinion is \$34,675.

Q. Have you any opinion as to the value of the royalty interest of Mary Faria in the 63.91 acres of land taken by the Navy from Joseph Faria, embraced within the lease owned by Joseph Faria as of January 15, 1945?

A. The royalty interest?

Q. Yes. A. Yes, I have an opinion.

Q. What is that opinion? A. \$9985.

Q. Have you any opinion as to whether that royalty interest of Mary Faria in the remaining 9.60 acres of land leased by Joseph Faria and not taken by the Navy suffered any damage or any depreciation by reason of Government taking?

A. I have an opinion, yes.

Q. What is that damage or depreciation?

A. The sum of \$1200.

Q. Now, upon what factors or information available to you or reasons did you base your valuation?

A. I based my valuation on the findings of my field work and on the findings [637] of Mr. de l' Eau's field work, Mr. John de l' Eau, and the findings of Byron Norris' field work, as well as all of the literature I had read with respect to this area, that is, with respect to geology. I based my conclusions with respect to the values on the showings encountered and during the course of the drilling of the Cal-Bay Corporation well. I based my opinion upon a knowledge of the trading prices of oil

(Testimony of John H. Wents, Jr.)

and gas land upon oil and gas royalty interests. I considered everything that came within the province of an oil and gas valuation in arriving at my opinion as of values.

Mr. Scampini: You may take the witness.

Mr. Bourquin: Counsel, I think that in your complaint you are praying for additional damages with respect to royalty interest, as you put it, that you did not cover. I thought rather than to have this witness come back again, if you wanted to you could cover it now, or are you abandoning it?

Mr. Scampini: Is it the Joe Chevez lease you are referring to?

Mr. Martin: The Dutra piece.

Mr. Scampini: Well, they were all taken with respect to——

Mr. Martin: Their royalty interest.

Mr. Scampini: Pardon me. You are right. Thank you kindly, counsel.

Q. Mr. Wentz, as the result of your studies and appraisals have you formed any opinion as to the fair market value of the [638] royalty interest of Edward Faria in the five acres of land embraced within his lease to Cal-Bay Corporation, and taken by the Government pursuant to this action, being Parcel 58, as of January 15, 1945?

A. Yes, I have an opinion.

Q. What is that opinion? A. \$300.

Q. \$300. Have you formed any opinion as to the fair market value of the royalty interest of Mae E. Dutra Roche in the 4.96 acres of land owned by

(Testimony of John H. Wents, Jr.)

her and leased to Cal-Bay Corporation, and taken by the Navy pursuant to this action, being Parcel 57, as of July 24, 1944?

A. I have an opinion, yes.

Q. What is that opinion? A. \$300.

Mr. Scampini: I think that covers it. I am abandoning any claim with respect to severance damages in the Joe Chavez piece. You may cross-examine.

Cross-Examination

By Mr. Bourquin:

Q. Mr. Wents, counsel omitted to ask you, where did you have your geological training?

A. I went to Stanford University and the University of Southern California.

Q. Did you take an engineering degree at Stanford? A. No, I did not.

Q. What did you pursue with regard to studies there? Did you pursue geological studies?

A. I pursued my studies there during the course of four years' enrollment, but I never completed my course, as I outlined it, for the reason that I had to go to work; I ran out of money. [639]

Q. What course were you pursuing?

A. What course was I pursuing? Geology.

Q. Geology. A. Yes.

Q. You took a part of that course, you say as far as you could in your course at Stanford?

A. Yes. So far as my money would allow me to go.

(Testimony of John H. Wents, Jr.)

Q. As far as your money would allow you to go.

A. Yes.

Q. Until your money ran out? A. Yes.

Q. And how long did you go to Stanford?

A. I finished in the year 1927 in Stanford, in June, 1927. I had entered in 1923.

Q. In 1923? A. In October.

Q. Did you, after that, have any further opportunity and did you pursue any further your studies in engineering, or petroleum, or geological engineering?

A. Yes. Immediately upon leaving Stanford I went to work as a geologist in the research and valuation department of the Marlin Oil Company. I continued there for two years. Then I went to work for the Associated Oil Company.

Q. I was just covering the subject of your schooling.

A. I entered U.S.C. in extension work in 1935 and was in continuance attendance there in extension work to 1939, sometime in 1939.

Q. What courses were you taking there?

A. Graduate work in geology and petroleum engineering.

Q. Did you graduate there?

A. No, I did not. I did not take a degree. [640]

Q. Were you continuously at your studies there from 1934 to 1939? A. Yes.

Q. Have you ever been associated with any oil or gas development in Northern California?

A. What do you classify as Northern California?

(Testimony of John H. Wents, Jr.)

Q. Well, that is a good question for you Los Angeles people to ask us.

Well, as the gentleman spoke of here, let's start with Kern County and the Coalinga Field, and come north from there and go up to the State line in Oregon.

A. Well, I have done work in Fresno County, which is north of Kern County fields. Then I skipped the territory between there and, say, Northern California and did considerable work in Oregon.

Q. In Oregon? A. Yes.

Q. But north of Fresno you have not been associated with any oil or gas development in California?

A. With exception of the Riverdale field and the Helm field in the vicinity of Fresno, I have worked in those fields.

Q. Didn't you do some work for the Savage Oil Company in California at one time?

A. Yes, I did.

Q. Where was their development?

A. Their development was in Shields Canyon.

Q. Where is Shields Canyon?

A. Ventura County.

Q. Did you have a part of that development?

A. Did I have a part of it?

Q. Yes. A. I took part in it. [641]

Q. You were one of the developers, were you?

A. My father was the developer and I was associated with my father, yes.

(Testimony of John H. Wents, Jr.)

Q. How did that Ventura development pan out?

A. Panned out very unfortunately for us.

Q. What happened to that company?

A. It went into receivership.

Q. Went bankrupt?

A. Yes, and I had to pay off all the obligations.

Q. Did you mention that you were also connected with the Diversified Royalties?

A. I didn't in a list of my work. I was connected with Diversified Royalties, yes.

Q. Were you the consulting geologist or engineer for Diversified Royalties?

A. No. I was employed as a geologist, as a valuation engineer directly under the Diversified Royalties, not as a consultant.

Q. When?

A. Between 1934 and 1938.

Q. Between 1934 and 1938? A. Yes.

Q. That was a widespread operation in royalty dealings, was it?

A. Yes. I appraised, as I say, probably a thousand or more properties for that.

Q. For the Diversified Royalties? A. Yes.

Q. How many did that company come out?

A. I understand that about a year or a year and a half after I left their employment they went into receivership.

Q. They went into receivership? A. Yes.

Q. Now, sir, you also referred to the fact that you had been [642] engaged by the Attorney General's representative in the Southern California

(Testimony of John H. Wents, Jr.)

Land Office to make some studies and appraisals down there? A. Yes.

Q. In connection with a case that you said there were various owners involved; is that true?

A. Well, in most of the cases there was a variety of owners.

Q. Did you appraise and report to the representative in the Land Office down there your view of the properties in which——

A. Which properties are you referring to?

Q. The property in the case you were talking about.

A. I talked about a number of them.

Q. The case for the Lands Division?

A. Yes, yes, I have.

Q. Did the Lands Division representative down there represent your view of the property in the Sam Block case? A. Yes.

Q. You appeared and testified for the Lands Division in that case? A. Yes.

Q. And the Government lost that case, didn't they? A. They did.

Q. It is now on appeal?

A. It is on appeal, yes.

Q. In this Muroc Bombing Range, you said they also sent you out into that field A. Yes.

Q. Was that an oil or gas field?

A. That was the appraisal of rotary clay. [643]

Q. Was it the appraisal of oil and gas fields or property claiming to have oil or gas upon it?

A. No, clay potentialities only.

(Testimony of John H. Wents, Jr.)

Q. Clay potentialities only? A. Yes.

Q. In other words, it did not involve anything in the field of oil or gas? A. No, it did not.

Q. Mr. Wents, when did you first see this property?

A. I believe it was December 27, rather than December 26, as Mr. de l'Eau testified, because I came up with him at that time, and we left Los Angeles the night of the day following Christmas, so we arrived there on the 27th.

Q. So our record will be clear, was that 1944?

A. 1944.

Q. Not 1943, the year of the first drilling over there? A. No, it was not.

Q. Are you and Mr. de l'Eau associated?

A. We were associated engineers on this particular appraisal, and we have associated on other appraisals.

Q. I mean, do you office together or do you have separate headquarters?

A. Mr. de l'Eau makes use of my office.

Q. He works out of your office?

A. He uses my telephone facilities and office facilities, but the connection is not one of a partnership or anything like that.

Q. Coming to your conclusions of value in this case, you said that you predicated your views on the findings of Mr. de l'Eau and Mr. Norris, did you?

A. I said that that was a part [644] of the things I predicated my values upon.

(Testimony of John H. Wents, Jr.)

Q. Is it fair to assume that you consulted with these gentlemen in your investigation and in coming to your conclusion?

A. Absolutely, I consulted with them.

Q. And you consulted with respect to the factors that might or might not exist in the property to make it a commercial gas property?

A. I consulted with them and formed my opinion.

Q. Did you agree with their findings as they discussed them with you?

A. Basically I agreed with their findings. Some small findings which were negligible, those things we did not agree on.

Q. Do you, too, hold the view that this property made a commercial gas discovery there in 1944?

A. Commercial gas was shown, in my opinion, by the blowout of 1944.

Q. Is that the factor that leads you to conclude that there was a commercial gas deposit present and exposed in 1944?

A. No, not necessarily.

Q. Maybe I misunderstood you. Will you read the last few questions and answers?

(Record read.)

Q. (By Mr. Bourquin): I do not know whether I understand you, Mr. Wents. Did you conclude from the fact that the well experienced the blowout in 1944 that there was a commercial gas deposit present?

A. I concluded that there was a [645] possibility of commercial deposit beneath these lands.

(Testimony of John H. Wents, Jr.)

Q. From the occurrence of the blowout?

A. No, from the sequence of events preceding that blowout, from the formations which were penetrated in the well, from the gas shows which were had higher up in the well and tested, and from the fact that the last core in that hole still showed that they were in marine formation, and as long as we are in marine formation, whether the depth is 4,000, 10,000, 12,000 or even 15,000 feet, we still have a possibility of commercial production, and we evaluate on those possibilities in the oil business.

Q. In other words, then, so we will understand, are the valuations that you have stated here in court today valuations based on a possibility of a commercial gas deposit there?

A. My valuations are based upon what a buyer and seller might agree on and the price, both being familiar with the subject matter.

Q. Did you come to any conclusion further than a possibility of a commercial gas deposit there?

A. That is enough to warrant us in the oil business——

Q. Please answer yes or no?

A. Will you read the question?

(Question read.)

A. I came to the conclusion that there was a possibility for a commercial gas deposit underneath these lands. [646]

Q. Was that as far as your conclusion went, that there was merely a possibility of a commercial gas deposit underneath these lands? Can you answer yes or no?

(Testimony of John H. Wents, Jr.)

A. I will answer that yes.

Q. That is as far as you go, that it was a mere possibility that the sequence of events up to and including the blowout indicate only a possibility of a commercial gas deposit in the lands, is that correct?

A. May I explain my answer?

Q. Can you answer yes or no and then explain?

The Witness: Would the reporter read the question?

(Question read.)

A. The answer is yes, but I would like to explain, your Honor.

The Court: Very well.

The Witness: No geologist has the power of predicting what will actually be in the formations that we encounter in the drilling of an oil and gas well. That is, until those formations are uncovered, any geologist who says when he looks over a piece of land that there is oil there at such and such a depth is making an assumption and should not be called a geologist. We are hired as technical men to rate the possibilities and to evaluate those possibilities. That is our profession.

Q. In other words, you would agree that no one would be warranted [647] in diagnosing a commercial gas deposit in the land from near surface surveys, is that true?

A. That he is warranted in diagnosing the possibilities, but not the actuality.

Q. That is what I was getting to: in other words, so we will understand here, we are dealing

(Testimony of John H. Wents, Jr.)

not with—what do the French say—a fait accompli, a fact accomplished, but we are dealing with a possibility only, is that it?

A. A possibility, yes, to the extent, however, that that possibility was stronger than the usual situation which leads us to even commence an oil well or a gas well.

Q. In other words, can we gather from that that with the sequence of events and the facts that had been encountered in those two explorations in 1943 and 1944, you felt that with the blowout in 1944 conditions had been shown that would warrant an exploration for a commercial gas deposit, is that true?

A. Yes. I would like to carry my answer “Yes,” further, however.

Q. All right.

A. With the conditions which transpired just previous to my being called in on this case—in other words, the blowout—I think that everything would point to the fact that that hole should be carried down and a test made of that horizon. If that horizon did not indicate or show on that test commercial production, there were still other possible horizons below it which should be tested. [648]

Q. In other words, it is your view that with the facts before them, including the blowout in 1944, they would have still been warranted in exploring further, is that true?

A. Yes, exploring and testing.

Q. That is your view of the property under the

(Testimony of John H. Wents, Jr.)

facts and circumstances that you note from your examination of the log and your own studies, is that it? A. Correct.

Q. Mr. Wents, let us turn to these figures that you gave us or the theme of the figures that you gave us on valuations. Will you turn to your index, please? A. I have turned.

Q. You testified that the Cal-Bay lease of the 158 acres of Mary Faria that were not taken—in other words, that were outside the fence—had been damaged by the Government taking the remainder of the lease on the Mary Faria property, is that true? A. That is true.

Q. And so we will know what you are talking about, I will ask you if it is correct, does this outline the Mary Faria acreage that was not taken, or does it run across?

A. No, it runs here (indicating).

Q. It runs to here? A. This line.

Q. Let us start with the fence. This horizontal line that falls to the middle and rises again on the map—and this is Defendants' Exhibit 33—marks the Government fence, does it? A. Yes.

Q. The parcel limits? A. Yes. [649]

Q. Outside of that fence there remained in the acreage of Mary Faria 158 acres as I outline them here?

A. I want to be very sure of that. This line (indicating).

Q. Let me outline that. It will come up from the fence here, rise to the top of the map along

(Testimony of John H. Wents, Jr.)

this line, cut across Parcel 59 on the dotted line, and return to the fence, comprising 158 acres. You testified that that property, the lease in that property has suffered damage because the Government took the balance of the Mary Faria acreage that he conditioned a lease on; that is true, isn't it?

A. Yes, it is true.

Q. Let me ask you this, so we will follow that: How much would you estimate the total acreage of Mary Faria, that is, the Cal-Bay lease in the total acreage of Mary Faria, 367.36, would be worth in market value as of January 15, 1945?

A. The three——

Q. Treat it as 367 or 368, if you will.

A. The full 367.36 acres, not including the well which was on there, would have had a market value of \$312,256.

Q. How much an acre?

A. That would be \$850 per acre.

Q. \$850 per acre is what you would say in the market the leasehold in the Mary Faria piece was worth on January 15, 1945, is that correct?

A. Yes.

Q. What would you say would represent the market value of 368 acres in the Mary Faria piece, the leasehold value in it of Cal-Bay? I will withdraw that. What would you say was the [650] market value as of January 15, 1945, of the Cal-Bay lease in the 158.5 acres of Mary Faria that was not taken? A. \$95,118.

Q. \$95,118. How much an acre?

A. \$600 an acre.

(Testimony of John H. Wents, Jr.)

Q. So we can find an equation, can we follow from that that the leasehold in the remaining acreage, 158 acres, was depreciated by the taking in the sum of what? Around \$200 an acre?

A. Around \$200.

Q. What is the basis for your view that that leasehold in the remaining acreage suffered that damage? A. The reason?

Q. Yes.

A. There are a number of reasons.

Q. Will you give them to us, please?

A. In the first place, the tract was reduced in size materially.

Q. What?

A. The tract of land, by virtue of the taking, was reduced in size materially.

Q. The Mary Faria tract was reduced in size materially?

A. Yes. The well which had been located upon there, which was in the process of drilling or being worked upon before the taking, had erased. The well was not present then. Geologically in my opinion, the land which remains is of lesser value than that which was taken.

Q. Well, now, let's see. Mary Faria still has, outside the arsenal that the Cal-Bay still has a lease on, 158 acres of the acreage that was Mary Faria's and still is? A. That is correct. [651]

Q. How big an acreage does it take to establish a well?

A. We can establish a well on a tract of land probably one hundred feet by one hundred and fifty feet.

(Testimony of John H. Wents, Jr.)

Q. That would be what? A half-acre?

A. That is less than half an acre, I believe, but if all our activity was conducted on such a density, it would be a very losing proposition as to the operator, because he could not afford the economic investment of drilling on that density.

Q. You say if all your activity was confined to what?

A. A small tract of land. You have to have a big tract of land to drill an oil well.

Q. You mean you have to have room to work?

A. No, not room to work. You have to have room for reserves. When we drill an oil well we expect to make a profit out of that venture, and our profit out of a drilling venture, a completed oil well, is dependent upon the amount of oil or gas which that well will produce, which in turn is dependent upon the thickness and the saturation of the formations. There are many factors going in to explain well densities and spacings.

Q. That brings us to the point. Could you reach this supposed commercial gas structure by a well on Mary Faria's remaining 158 acres?

A. We might be able to do that. May I go on a little further there, your Honor? The question as he asked it was, could we. We could commence a well right where I am sitting here and bottom it under the City Hall [652] without any difficulty at all. We can do lots of things in the drilling of a well. However, I do not think the Government would stand for us commencing a well on the Mary

(Testimony of John H. Wents, Jr.)

Faria property which remains and bottoming it under their property.

Q. What is that? You do not think the Government would stand for it?

A. No, that is trespass.

Q. Bottoming it on their property, you say?

A. Oh, yes.

Q. You mean if you went in Mary Faria's land and drilled to get at the same point as the old well, there could be an objection, is that what you mean?

A. There would be an objection, very likely.

Q. How big is this structure, in your estimation? Don't you agree with Mr. Norris and Mr. de l'Eau that there was a wide structure under there?

A. I agree with Mr. Norris and Mr. de l'Eau to the extent that the structure appears to be large. Now, to date the structure has been expressed as the result of surface observations. We can't conclude everything from surface observations. Our structures are not outlined until we have them developed. The closer to a well which has shown signs of gas, the more logical the expectancy of gas production.

Q. What kind of qualities are you attributing to that 158.53 acres up there on the top of the hill outside the fence from which you tell us that before the taking of the property inside it was worth \$800 an acre and afterwards was worth [653] \$600. Certainly not farming?

A. May I explain that?

Q. You can answer it quite fully?

A. Yes, I would like to answer that quite fully.

Q. Yes.

(Testimony of John H. Wents, Jr.)

A. For example, it is very common in our business to——

Q. I want you to answer the question. What qualities are you attributing to the 150 acres of Mary Faria outside the fence?

A. Proximity of production, possible [653-a] production.

Q. Possible production. Are you attributing to it qualities, holding qualities for exploration and exposure of oil or commercial gas?

A. Future drilling in case it is wanted.

Q. How about that Alvernaz property? The Alvernaz property, none of that was taken by the Government, was it?

A. No, it was not.

Q. Not even a fraction of an acre, is that correct? A. Correct.

Q. So we will have it before us, does the property that lies to the north, if this map is placed with the north to the top——

A. The section lines are relatively north and south.

Q. Relatively north of the Faria piece, and I will outline it like this (indicating), 310 acres. It runs down in this corner. A. Yes.

Q. Would you say that that property, too, suffered damage, was damaged in value because of the taking of the property inside the fence?

A. I do.

(Testimony of John H. Wents, Jr.)

Q. What was the market value of the Alvernaz property in July, 1944, the 310 acres.

A. 316 acres.

Q. 316 acres.

A. Worth \$108,500, or at the rate of \$350 per acre.

Q. How much, in your opinion, was its market value after the Government took the property to the south of it.

A. I am sorry. There is a typographical error. 310 acres. After the Government took the property the 310 acres was worth \$31,000, or [654] \$100 per acre.

Q. In other words, because the Government took this property and closed in the fence, without touching it, it is your view that the Alvernaz property outside was depreciated to the extent of \$200 an acre, is that true? A. It was.

Q. Are we talking now about the leasehold value? Is that what you are speaking of in terms of leasehold value? A. The leasehold value, yes.

Q. I wish that you would tell us what was the market value of the mineral rights, if any, in the Alvernaz 310 acres as of July, 1944, without breaking it into leasehold and royalty.

Mr. Scampini: May it please the Court, I object to the question on the ground the issue before the court is the valuation of leaseholds and royalties, and not mineral rights.

Mr. Bourquin: This would apply to unit value, but it would also test the witness' opinion, your Honor.

(Testimony of John H. Wents, Jr.)

The Court: I think it is proper cross-examination on the general subject the witness has testified to. Overruled.

Mr. Scampini: Then may I ask what mineral rights are referred to? Do you mean oil, natural gas, gold or silver?

The Court: I think he means whatever is in the ground as a whole before it is split up into interests. Is that what you mean?

Mr. Bourquin: Yes, your Honor.

Mr. Scampini: If it please your Honor, I raise the further [655] objection that this witness testified he has appraised the minerals in the ground on the basis of oil or natural gas but no other minerals, and I think we should limit it to that extent.

Mr. Bourquin: If he does not know of any others there, he does not have to bother with them.

The Witness: It is customary to appraise the two items separately because they have a separate market and in the matter of leases or royalty interests, we must go—that is unproven—we must go to market value for our answer.

Q. (By Mr. Bourquin): I will allow you to do that, but to test your viewpoint we would like you to tell us your opinion of the market value of the 310 acres of Alvernaz, including all of the oil and gas, if any, in the ground as of July, 1944.

The Court: I think what the attorney wants you to evaluate Mr. Wents, is assuming there wasn't any lease, somebody came along and wanted to buy the

(Testimony of John H. Wents, Jr.)

whole thing, what would he pay for the oil and gas in the ground? 100 per cent of it.

The Witness: The fair market value.

The Court: Is that what you want to find out?

Mr. Bourquin: Yes, thank you.

Mr. Scampini: I think that clears the record, your Honor, and I thank you.

The Witness: That was before?

Q. (By Mr. Bourquin): Yes, before the Government took the property to the south of it.

A. I would say between \$125,000 [656] and \$150,000.

Q. What would your opinion of the market value of the oil and gas rights in that 310 acres of Alvernaz be immediately after the Government took the property to the south of it in July, 1944?

A. I would be less.

Q. What would it be? Around sixty, \$70,000?

A. Yes.

Q. About half would you say? A. Yes.

Q. In other words, because the Government took the property near it, the property was depreciated in value \$65,000 to \$85,000?

A. Yes, because the purchaser, a knowing purchaser, would have considered that that property would have been explored by the continuance of the work on the Cal Bay sale, and he would have been willing to pay a higher price for that land had that well been allowed to be completed. That causes the difference.

Q. Your basis is that the owner would have

(Testimony of John H. Wents, Jr.)

information that would result from the continued exploration of the Cal Bay well?

A. The increase in value, yes.

Q. After the Government took this property, Mr. Wents, how much property did the Cal Bay have left to it outside the fence?

A. I believe it was 468 and approximately a half acre.

Q. In your opinion how many locations would the 468 acres remaining to it afford with which to continue the exploration or development of the proposed gas structures in the Cal Bay property?

A. Will you read that question? [637]

(Question read.)

A. The answer is from 1 to many.

Q. How many?

A. I don't know how close you would want to come. If there was no oil at the first location or no gas they probably would not drill any more. If there was oil or gas in the first one they probably would drill additional. So I could not answer that unless I had some knowledge of production.

Q. Did you ever discuss that matter with Mr. Norris?

A. I would not need to discuss that with Mr. Norris.

Q. Did you? A. No, I did not.

Q. Did you ever discuss that with Mr. Norris?

A. No, I did not.

Q. You do not know what his views were on that? A. No.

(Testimony of John H. Wents, Jr.)

Q. Do you know whether he made any representations either to Mr. Faria or the Corporation Commissioner with respect to the continued development of the 468 acres remaining to Cal Bay?

A. I know of none.

Q. You know nothing of that? A. No.

Q. You never heard it mentioned? A. No.

Q. Never discussed it with anyone?

A. No, sir.

Q. You have not discussed that with counsel?

A. No, I have not.

Q. Let me ask you, so I can understand your view a little better, would give us your opinion as nearly as you can of the market value of the Cal Bay lease in the 208.83 acres taken? That is the one piece that the well is on, isn't it?

A. Yes. [658]

Q. Is that the piece the well is on?

A. That is 208.83 acres, yes.

Q. Give us your opinion as nearly as you can of the market value of the Cal Bay lease in the 208.83 acres taken from the Mary Faria piece as of July, 1944. A. Including the well?

Q. Yes. A. \$411,500.

Q. That is of July, 1944? A. Yes.

Q. That is as of a period of time before any of the 1944 exploration was done?

A. That is true.

Q. In other words, it is your opinion that the market value of that property of the Cal Bay lease in the Mary Faria 200 acres that was taken was just

(Testimony of John H. Wents, Jr.)

as much before the 1944 exploration was undertaken as it was after the blow-out and the abandonment?

A. It actually may have been more. May I explain?

Q. Yes.

A. For the simple reason that the condition of the hole as of the time of July was much more favorable for conducting tests than it was as of a later date, the later date, the blow-out date. As a consequence, in the expenditure of money on the operation of a property, we consider what we have got and what we have to spend to justify our investment.

Q. In other words, it is your opinion that in July, 1944, before the 1944 exploration was undertaken, the Cal Bay lease in that property may have been worth something more in market value than you held it to be on January 15, 1945?

A. It may have, yes. [659]

Q. Let's carry that one step further. What is your opinion of the market value of the Cal Bay lease of the 208.83 acres of Maria Faria, taken as of October 28, 1943?

A. There is no material change from the price I have given before.

Q. Still worth as much?

A. Let me look according to the log. No material change.

Q. In other words, again you would say that the leasehold interest in the Maria Faria piece, upon

(Testimony of John H. Wents, Jr.)

which the well is located, was worth as much in the market on October 28, 1943, as it was on January 15, 1945; is that true?

A. Yes, that is true.

Q. That is true. Then your opinion follows the same equation with respect to the other properties included in the taking?

A. I don't think there is any change in value between the dates you have mentioned.

Q. So we can settle the matter now, is it your opinion that the leasehold of Cal Bay lease in the properties that were taken was worth as much in terms of market value on October 28, 1943 as it was on January 15, 1945? Is that your opinion?

A. It is.

Q. You do not feel that the explorations of 1944 and the incidents of it had any effect on the market value of that lease, at all; is that it?

A. They might have had, but they were offset by the unfortunate trouble which developed.

Q. Now, on the subject of that well, have you, in evaluating, expressing an opinion of the value of the lease in that Maria Faria piece, where the well is, or, in your opinion, the Maria [660] Faria royalty interest in that same piece, have you included or ascribed any value or any part of the value to the presence of the well?

A. Yes.

Q. What part of your value in, first the leasehold, would you say you ascribed to the presence of the well?

A. A good portion.

(Testimony of John H. Wents, Jr.)

Q. How much? A. At least one-half.

Q. Have you a figure?

A. That is not—that is excluding the cost of the well, itself.

Q. I just want you to tell me what you——

A. Excluding the cost of the well, itself, the land is appreciated by virtue of the fact the well is located there by approximately one-half.

Q. You are now talking of depreciating this property not taken. I am dealing with——

The Witness: Property taken, I was referring to.

Mr. Bourquin: Yes, yes.

Q. How much of the \$411,503 that you ascribe to the leasehold in the property taken of Maria Faria do you relate to the well?

A. Directly to the well, \$234,000.

Q. What do you base it on?

A. The cost of the well.

Q. The cost of the well. Well, in other words, is it correct to say that you have appraised the leasehold interest of Cal Bay in the 208.83 acres at one figure and then added to that the cost of the well to complete your total value of the leasehold in that property?

A. I had to do that. That is my method of [661] approach.

Q. That is what you did, is it?

A. Yes. For want of any other means that was required.

The Court: Have you much more Mr. Bourquin?

Mr. Bourquin: Well, I believe if your Honor is

(Testimony of John H. Wents, Jr.)

prepared to take a recess it will enable me to get down on the ground with this witness and I may be able to finish up very shortly tomorrow morning.

The Court: I think perhaps that would be better. I am going to do that. We will take the recess now, ladies and gentlemen, in this case until tomorrow morning at ten o'clock. In the meantime please continue to follow the admonition which I have heretofore given you. We will adjourn until tomorrow morning at ten o'clock.

(An adjournment was here taken until tomorrow, Friday, July 31, 1947, at ten o'clock a. m.)

Friday, January 31, 1947

10:00 o'Clock A.M.

The Clerk: United States of America vs. Certain Land in Contra Costa County; on trial.

Mr. Scampini: Ready.

Mr. Bourquin: Ready.

JOHN H. WENTS, JR.

recalled.

Cross-Examination

(Resumed)

Mr. Scampini: We have a juror missing.

The Court: Before we proceed in the trial of the case, the clerk informs me that Mr. Beine, one

(Testimony of John H. Wents, Jr.)

of the jurors, Juror No. 7, the juror is ill and could not be here this morning. Now, if there is no objection, I think we ought to complete the panel by putting the alternate, Mrs. Painter, regularly in the box.

Mr. Bourquin: No objection from the Government.

Mr. Scampini: No objection.

The Court: Very well. The order will be that Mrs. Painter will become part of the regular panel. I wonder if you would sit over there, Mrs. Painter, where Mr. Beine sat; then we will be able to keep our record of the positions of the jurors correct.

Mr. Bourquin: Shall we proceed, your Honor?

Q. (By Mr. Bourquin): Mr. Wents, the property of Geraldine Faria was not, is not included in the Cal-Bay lease; is that true?

A. That is true. That is Parcel 64, is it not?

Q. I believe it is 64. A. Yes.

Q. In other words, her property was covered by the lease at the time of the taking and since held by Joseph Faria, himself? A. That is true.

Q. The taking of the property by the Government in this case resulted in cutting out .65 of an acre of the property of Geraldine Faria; that is true, is it? A. That is true.

Q. You voiced the opinion that severance damage to that parcel 64, the property of Geraldine Faria, had resulted from the taking in the sum of about \$26,000?

A. That is what I testified to.

(Testimony of John H. Wents, Jr.)

Q. Do you base your opinion of damage to that parcel of land by the taking away from it of the .65 of an acre?

A. That is part of it. I based my opinion on other parts besides that.

Q. On other parts?

A. The removal of the well which was upon adjoining acreage. That is one of the principal considerations in it.

Q. In other words, in forming the opinion that that parcel had been damaged \$26,000 by the Government's condemnation here, you depend, or, rather, you reason that that damage accrued [664] because the Government took other property than her property?

A. It took her property, too.

Q. It took .65 of an acre?

A. Yes, that is true.

Q. Possibly it is a way of clarifying it, what damage would you say accrued to the property of Geraldine Faria by the taking of the .65 acre of it in the corner that I am pointing to here?

A. What was that question?

The Court: Read the question, Mr. Reporter.

(Question read.)

A. The value of that property which was taken, the .65 of an acre, I appraised at \$175.

Mr. Scampini: I think the witness has misunderstood the question.

The Witness: And the severance I appraised at \$26,200, a total damage of \$26,375.

(Testimony of John H. Wents, Jr.)

Q. (By Mr. Bourquin): You valued the .65 of an acre that was included in the Government taking from her property at \$175? A. Yes.

Q. What damage did you conclude the remainder of the 228½ acres suffered by reason of the taking of the .65 of an acre from it?

A. \$26,200 in damage to the rest.

Q. \$26,200? A. Correct.

Q. Will you explain to us your theory of that damage relating to her acreage from the taking of the .65 of an acre?

A. My theory of the damage that resulted to the Geraldine Faria [665] property as a result of the taking of the .65 of an acre was one which the Geraldine Faria property was tied in with the Mary Faria property and also to other properties in there in so far as the Faria well was concerned. In other words, the operations on the Faria well complied with the drilling requirements on this property, as well as the drilling requirements on the Faria property, so the taking of that well is what caused this property to suffer the damage that I assigned to it, more than the actual severing of the piece, of that .65 of an acre, or the taking of the .65 of an acre.

Q. How do you allocate the amount of the damage that you conclude was suffered between that caused by the taking of the .65 of an acre and that caused by the taking of the property from her upon which the well was drilled?

A. I allocate a reduction in the worth to her property.

(Testimony of John H. Wents, Jr.)

Q. How do you allocate or break it up for that?

Mr. Scampini: I assume, Counsel, for the purpose of the record, that every time the word "properties" is being used in this case we are talking about the leasehold estate, aren't we, in the property of Geraldine Faria and the leasehold estate of Joseph Faria on the property of Geraldine Faria?

Mr. Bourquin: Well, the value that he gave he attributed to leasehold on that particular piece of property.

The Witness: That was what I was talking about.

Mr. Bourquin: Yes. [666]

The Witness: Before the take, the value of the Geraldine Faria leasehold on the 228.55 acres was \$45,710, or a value of \$200 an acre. After the take the value of that leasehold was \$50 an acre, or \$11,395.

Q. Yes, Mr. Wents, I remember you said that yesterday, but what we would like you to tell us, please, is how much of the twenty-six thousand you say the lease of Geraldine Faria's acreage was damaged is chargeable to the taking of the .65 of an acre from it.

A. I never calculated that.

Q. How much of the damage to Geraldine Faria's acreage which you concluded was \$26,000, is chargeable to the taking of the property upon which the well was drilled?

A. The greatest proportion is chargeable to the taking upon which the well was drilled.

(Testimony of John H. Wents, Jr.)

Q. Then give us some idea of the proportion between the .65 of an acre and that chargeable to the taking of the property upon which the well was drilled?

A. Oh, it is the greater proportion by far. I would say 90 per cent.

Q. 90 per cent. In other words, shall we assume that if we were to deal with the taking of the .65 alone you would say that her damage to the 228 acres remaining would amount to about \$2600 instead of \$26,000, 10 per cent?

A. That would be closer. It might even be less than that.

Q. It might even be less than that. Your map doesn't present to us, it may be presented on it, any clear outline or distinction [667] between the two leases, the leases of the Cal-Bay Corporation and the leases of Joe Faria?

A. Yes, it does.

Q. Can we outline it?

A. The leases of Joe Faria are colored in yellow on this map and outlined in yellow, colored or outlined (indicating). That was a part taken there. This is the balance of the lease (indicating).

Q. Will you tell me if I am correct, please: The Cal-Bay lease is the lease which will be outlined or would be colored in green and bordered in green?

A. Yes.

Q. Running about the fashion that I have traced on the diagram?

(Testimony of John H. Wents, Jr.)

A. Your tracing has followed it along this line,

Q. And including the property upon which the well is situated? A. That is true.

Q. But not including any of the property of Geraldine Faria?

A. No. That is, to my knowledge.

Q. That is the Cal-Bay lease. Now, the Joseph Faria lease, you say that consists of the property shaded in yellow and bordered in yellow. Would that be about this fashion that I trace here on the diagram?

A. There may be some question in that extent, because I understand that this, the Bollman parcel, there was some question about title.

Q. Well, let's skip the Bollman piece and see if we can trace out the shaded yellow and bordered yellow which would run in the fashion I have indicated with my hand. A. Correct.

Q. That would also include this Parcel 71 over here on the [668] easterly end of the diagram?

A. That is correct. That was taken, that was outlined by the yellow through the balance of the property.

Q. That is outlined in the balance; I see. Initially, all of those properties were in the separate ownerships, such as you have spoken of here, Dutra, Mary Faria, Geraldine Faria, Ed Faria, Mae Roche and Joe Chavez; is that correct?

A. Originally, each of the parcels was in the ownerships you named.

Q. They were separate *identifies* originally?

A. They were.

(Testimony of John H. Wents, Jr.)

Q. In 1941 or thereabouts, Joseph Faria consolidated that leasehold interest in himself, didn't he? A. That is true.

Q. Created an estate in Joseph Faria?

A. Yes.

Q. In late 1941, or whatever it was, Joseph Faria severed that estate, didn't he?

A. He divided his holdings, yes.

Q. He severed it by assigning the portion bordered in green and shaded in green to Cal-Bay Corporation? A. Yes.

Q. Having then once severed them, how do you explain, attribute another severance to the taking of the property in green as against the property in yellow?

A. There can be a continuation of severances, a chain of severances, as far as that goes. I am appraising as of that date. I could probably have appraised as of the date of the original severance but that doesn't change it. It is the same as other subdivisions.

Q. As far as the basis of your conclusion of damage to the properties, [669] severance damages to the properties in the Joseph Faria lease and not included in the Government taking, that is the basis?

A. I am considering the severance which occurred as of the Government take.

Q. In other words, the basis of your reasoning or opinion that severance damage accrued to properties in the Joseph Faria lease not included in the Government take is that although they had

(Testimony of John H. Wents, Jr.)

been once severed, you have a theory that no other severance occurred when the Government taking took effect?

A. I have a theory that another severance took place when the Government taking took effect.

Q. In other words, if we were to follow that out, Mr. Wents, that theory or reasoning, Mr. Wents, you would say by the same equation that any property which could be said to overlie this supposed structure, whether owned by the Faria group, or not, had suffered damage by the taking by the Government of the property upon which the well was located?

A. That is true as far as it pertains to the acreage upon the structure which had demonstrated the gas; that is, in the Faria well. That is very true.

Q. You are proceeding on a theory that Joseph Faria and Cal-Bay Corporation are one and the same thing, are they?

A. No, I am not considering them one and the same thing.

Q. You would recognize a separate identity there and the leases would recognize or require—

A. I recognize separate [670] identities. I recognize there are other ownerships there, too.

Q. Your theory is that when the property upon which that well was being drilled was taken all the surrounding property that might overlay the supposed structure then and there suffered a money damage?

A. Yes.

(Testimony of John H. Wents, Jr.)

Q. Whether included in this suit, or not?

A. Yes.

Q. The same reasoning applies, does it—Well, I will put it this way: You support your conclusion of damage to 71 acres, I will say to the balance of the 71 acres of Mary Faria that was not included in the 73 acres. A. It does.

Q. It was not included in the Cal-Bay lease or assigned to Cal-Bay, but was retained by Joseph Faria in his yellow part? A. Yes.

Q. Mr. Wents, have you related or included any portion of the cost of drilling that well to any other leasehold parcel valued by you other than Parcel 59, Mary Faria?

A. No. I include the cost in that particular parcel.

Q. You put the total cost of the well in your opinion upon the Mary Faria parcel, the green part? A. Yes. [671]

Q. And I assume that cost was what, that figure of cost of \$234,000? Was that one that you took from the books of the corporation?

A. That was furnished to me by an auditor of the corporation. A greater figure was furnished to me than that. From the larger figure I subtracted a certain sum that I did not believe was applicable to the cost of the well.

Q. What did you believe was not applicable to the cost of the well?

A. The commissions on the sale of the stock.

Q. The commissions on the sale of the stock?

A. Yes.

(Testimony of John H. Wents, Jr.)

Q. How much did you deduct from that item?

A. It was either \$43,000 or \$47,000. I forget which. I think it was \$282,000——

Q. Can you get your notes, please?

A. Yes, I can. Well, it was roughly \$282,000 invested in the well, that is, the total cost, according to the audit, of which approximately \$48,000 was commission.

Q. So you took off about \$50,000 and let the rest represent the cost, which you added to your opinion of the value of that appraisal to represent the value?

A. Yes, that is what I did.

Mr. Bourquin: That is all from Mr. Wents. Your Honor, I may say at this time that as the appropriate time I desire to address certain questions of law as to your Honor pertaining [672] to the subject matter we just covered, but if your Honor and Counsel are agreeable I will reserve that until the time we generally review the law.

Redirect Examination

By Mr. Scampini:

Q. Mr. Wents, referring you to the case of United States vs. Block, reference to which was made by Mr. Bourquin on his cross-examination of you, will you please state in what capacity you served or acted in that case?

A. I acted as an expert for the Federal Government, the Lands Division, an expert geologist and petroleum engineer and appraisal engineer.

(Testimony of John H. Wents, Jr.)

Q. Did you make any valuation of the property which was the subject of that action for the Government of the United States?

A. I made an appraisal.

Q. Did you testify in court with respect to the value of the property which was the subject of that action?

A. I did.

Q. And you testified, as I understood, as one of the Government experts, is that right?

A. Yes.

Q. What value did you place upon the property which was the subject of that action?

Mr. Bourquin: I object to that as irrelevant and immaterial, your Honor.

Mr. Scampini: If it please the Court, reference to the case has been made by Counsel, and the witness was also asked, "Is it not true that the Government lost the case?" I now [673] propose to prove that the value which the witness placed on the property was deemed by the jury to have been so low in value that the jury granted a much higher value than his appraised value.

The Court: I think that is what Counsel meant when he said the Government lost the case.

Mr. Bourquin: I do not think it is proper re-direct examination.

The Court: Have you any objection to that?

Mr. Bourquin: No, your Honor, if that is the situation.

Q. (By Mr. Scampini): On cross-examination, I believe you testified substantially to the effect that

(Testimony of John H. Wents, Jr.)

in your opinion there was not much change in the fair market value of the leasehold estates of Cal-Bay Corporation and Joseph Paria, Jr., between the period intervening from approximately October, 1943, to the end of 1944, is that right?

A. That is what I testified to.

Q. Upon what factors considered by you or reasons have you formed that opinion?

A. I formed that opinion for the principal reason I did not see myself compounding the shows, that is, the respective shows of gas in that well, and thereby bringing up the value just to a point of trying to estimate what the property might be worth developed. I had reason to believe from the shows which had been found at a depth of 4,260 feet, approximately, that this property had more [674] than reasonable possibility of being productive of gas, and I considered what a buyer would have paid for it in the light of all things. I did not appreciate it because of the latter show. Let me say that.

Q. I will ask you whether or not in the figures which you gave with respect to the fair value of these properties as of January 15, 1945, in respect to Parcels 58 and 59, whether those figures were at all influenced by the fact that a blow-out of gas occurred on November 29, 1944, on that same property?

A. Not according to my figures.

Q. Mr. Wents, had the well been completed on Parcel 59, and that well had shown commercial production, what effect would it have had upon the market value of the property, in your opinion?

(Testimony of John H. Wents, Jr.)

A. The market value of that property, had that well been placed on production, would have been calculated on an altogether different basis. I had to calculate this property on comparative values with respect to the trading in properties on which the possibility of production or probability of production was had, not the actuality. I would have used a different approach entirely.

Q. What approach would you have used?

Mr. Bourquin: Your Honor, I will object to this as speculative, conjectural, and not proper redirect. He says supposing something transpired that did not transpire, what approach would you use. [675]

I think it is irrelevant and immaterial, speculative and conjectural.

The Court: It does get into the conjectural field.

Mr. Scampini: I will withdraw the question, your Honor, so as to save time. In arguing it I think we can approach the problem I am driving at in a different way.

Q. I will now ask you, Mr. Wents, had the well which was being drilled on the Mary Faria leasehold, Parcel 59, been allowed to be completed, and had that well shown commercial production, would your figures as to the fair market value of the property which you gave have been lower or higher?

Mr. Bourquin: I object to that, your Honor, as assuming facts not in evidence, speculative, conjectural, irrelevant and immaterial.

(Testimony of John H. Wents, Jr.)

The Court: I think the objection is good. I will sustain it. We are only concerned here with the value as is, as the appraisers say.

Q. (By Mr. Scampini): Did the fact that the Faria well blew out on November 29, 1944, have any bearing upon the values determined by you?

A. As I said before, no particular bearing. It confirmed my suspicion or my findings. That was all.

Q. In other words, as I understand your testimony, the results of 1943 were merely confirmed in 1944 at a lower level, is that correct? [676]

Mr. Bourquin: That is leading and suggestive, your Honor. I will withdraw the objection.

The Witness: Basically that is the thing.

Q. (By Mr. Scampini): Between a buyer desirous of buying these properties—and, of course, such a buyer would of necessity have to be one knowing the hazards and the risk of the development of property for oil and gas production—would that buyer have taken into consideration in arriving at the values which he would pay the results obtained in 1943, during the year 1944, clear down to the end of 1944?

A. What he would have taken into consideration I do not know, but I would imagine he would take into consideration all the facts up to the time of the purchase of the property by himself.

Q. In arriving at the values that you gave in this court, did you take into consideration any transac-

(Testimony of John H. Wents, Jr.)

tions involving substantially similar properties in a substantially similar course of development?

A. I did.

Q. Are you familiar with any such transactions?

A. I am.

Mr. Bourquin: Your Honor, this is not redirect examination. I am going to object to it on that ground. It is going into collateral matters, too.

The Court: I think it is not proper redirect examination, Counsel. I will sustain the objection on that ground.

Mr. Scampini: Very well, your Honor. [677]

Q. Based upon your studies of the subject properties and your knowledge and experience, would you have recommended during the year 1944 to any of your clients the purchase of these leasehold estates at approximately the values testified to by you? A. I would.

Q. Only one more question: You have examined, have you not, the leases which covered the properties which are the subject of this action?

A. That is one of the first steps in my investigation.

Q. And you know the terms and conditions of those leases, do you not?

A. I am familiar with them.

Q. Is it not true that each one of the leases covering the properties, let us say, of Mae E. Dutra, Edward Faria, Mary Faria, Geraldine Faria and Manuel V. Alvernaz contains a clause therein to the effect that the drilling of one well on any one

of these properties would validate the lease with respect to all the remainder of the properties?

Mr. Bourquin: Just a minute. I would like to have that question read, your Honor.

The Court: Of course, if the lease says that——

Mr. Scampini: It is a matter of record, your Honor.

The Court: You could just state it. I do not think the witness could state what is in the lease. I do not think that would be proper.

Mr. Bourquin: The question was, would a drilling on any [678] one of the Cal Bay leases continue the life of the Joe Faria lease. The leases are the best evidence.

The Court: If that is so, you can call it to the attention of the Court or the Jury at any time.

Q. (By Mr. Scampini): In determining the damage to the leasehold estate of Joseph Faria, Jr., in the Geraldine Faria lease, Parcel 64, did you take into consideration or give any weight to the clause found in that lease that I shall now read to you:

Mr. Bourquin: Counsel, to shorten this, are you referring to the fact that when Joseph Faria and Bud Hildebrand took all of the leases they contained a provision that commencing drilling within a year, or the extension of the period by agreement on any one of them would extend the life of all of them?

Mr. Scampini: That is correct.

Mr. Bourquin: We have not raised any question of the validity of the leases here on that subject. If this is to be used as a method of approaching

(Testimony of John H. Wents, Jr.)

the law on severance damage, then we raise the question, the legal question, that when Joseph Faria disposed on his Bud Hildebrand or his own leases to Cal Bay, he created a separate entity and a separate estate, and that this provision would not affect the rule of severance damages. We object to the line of testimony on that ground. [679]

Mr. Scampini: I think Counsel has misconstrued the clause found in the lease. It reads as follows:

“Any provision, or provisions in the lease notwithstanding, it is agreed that this is one of a series of leases in a general district, said district including Sections 15, 16, 17, 18, 21, 22, 29, 23, 26, 27, 28 and 35, in Township 2 North,”

which embraced all the properties outlined on the map on the board, your Honor, “there being leases with numerous property owners within said district, and it is agreed that if the lessee commences drilling operations within one year from this date on any of the land described in any of the leases held by the lessee with the owners of the property within the district hereinabove described, that such drilling operations shall constitute a full compliance with paragraphs 4 and 5 of this lease, and that drilling operations on the land so held shall be and constitute drilling operations on the land herein described for all intents and purposes.”

In other words, this is a community lease, your Honor; it is part of a community lease.

(Testimony of John H. Wents, Jr.)

The Court: I understand that. What is the question you are asking?

Mr. Scampini: I am asking of the witness a question whether in determining and arriving at his figure of the damage suffered by the leasehold estate of Joseph Faria, Jr., [680] in the Geraldine Faria lease, he took into consideration the clause found in this lease which provides in effect that the drilling of the Cal Bay well on the Mary Faria property validated the lease of Geraldine Faria and, of course, when that well was taken, there was no well with which to validate the Geraldine Faria lease. So there is a damage resulting by reason of the taking of that well to the leasehold estate, in that it would have to have another well drilled to keep the lease in full force and effect.

Mr. Bourquin: This is a reversal of the theory that Counsel has proceeded upon in his case. At the outset of his case the question of the validity of these leases came up and we conceded or offered to concede that the leases were in effect between the parties. Then he himself brought in the question of the Bollman lease and, as he put it, to validate that lease he understood to show that there was an agreement between Bollman and Joseph Faria, which Mr. Bollman was unable to support. That was his theory then. Now he is taking another theory. We are not making any question—we will state our initial position: we will concede that between these people they were one group. In one fashion or another they have kept the leases alive, so far as the life of the lease is concerned, but to

(Testimony of John H. Wents, Jr.)

employ the terms of them to circumvent the rule of severance damage is what we object to, if that is what it is designed to be for. These leases say if the lessee shall drill, it will continue. Now, the lessee did not drill; an assignee of the lessee drilled. But we do not raise the question of the validity of the leases, because the parties could make their arrangements between themselves. But to try to reconsolidate these properties that they once severed, we object. That is what this question is designed to do, to reconsolidate them. They cannot be reconsolidated unless it be admitted that Joseph Faria and Cal Bay are one and the same thing.

The Court: I do not quite understand that that is the question the witness is being asked.

Mr. Bourquin: I take it he is asking the witness, in response to the testimony of the witness on cross-examination that the taking of the Cal Bay property caused damage to any other property in the locality that might be said to overlie the supposed structure, whether it was in these leases or not. In respect to that he is asking this witness, "Well, when you related your damage of the Joseph Faria lease in the Geraldine Faria property, weren't you doing that on the basis of the validity of the lease and legal equations?"

Mr. Scampini: I will withdraw the question, your Honor, and save time on something that is rather remote, as far as I can see—without conceding the point, your Honor. If you will just pardon me a minute. I think I am about through. That is all. [682]

(Testimony of John H. Wents, Jr.)

Recross-Examination

By Mr. Bourquin:

Q. Mr. Wents, I understood you in response to Counsel, to say that in coming to your opinion of value in this matter you were not influenced to any extent or in any degree by the fact that the well blew out in November, 1944? A. Yes, sir.

Q. That is your view of it? A. Yes, it is.

Q. You were not influenced?

A. I took it into consideration, but I did not give it any material weight at all.

Q. With information at hand on October 27, 1943, would you have placed the same market value on those properties that you have done here?

A. I would have.

Q. You would have?

A. With the exception that there may have been some change in the worth of the well at that time. I am using cost in this case as the definitive of the value of the well.

Q. That is as I understood you yesterday, that with the information at hand on October 27, 1943, and no more, you would have placed the same value on these properties, with the exception, one, that they might be worth something less because the bottom of the hole was messed up, or, two, that might be balanced off by the fact that there was more hole, good hole, is that correct?

A. That is true.

(Testimony of John H. Wents, Jr.)

Mr. Bourquin: That is all, sir.

Mr. Scampini: That is all. [683]

The Court: Just a moment, Mr. Wents, there is a matter I would like to inquire about. I do not recall in your testimony whether you valued the royalty interest of Maria Faria. One figure you gave us was you valued the royalty interest of Maria Faria in the 208.83 acre tract at \$65,250. I wonder if you could get to that figure that you have there.

The Witness: Yes.

Q. (By the Court): Now, so that the Jury and the Court may understand what you mean by that, you are referring to the interest reserved by the lease to Mary Faria?

A. The one-eighth of the net proceeds from production which was reserved by each of these leases with respect to the valuation of the royalty.

Q. The Cal Bay Corporation took a lease of the property of Maria Faria?

A. That is correct, your Honor.

Q. And they were to get all the oil that came out of the well except one-eighth?

A. They were to get seven-eighths for the operating.

Q. And Maria Faria was to get one-eighth of that oil? A. One-eighth.

Q. And that is referred to as her royalty interest, is that right?

A. That is her royalty in either oil or gas, whichever be produced.

(Testimony of John H. Wents, Jr.)

Q. When you gave your opinion that her one-eighth interest in the oil or gas to be produced had a value of \$65,250, were [684] you there indicating that that was the present value that you attached to her one-eighth interest in the oil or gas?

A. What her royalty interest might be sold for in the open market based upon going prices.

Q. That would be the present value of the future return, would it not?

A. No, it would be the market value rather than the present value, because—

Q. The market value, then, of the future return?

A. Yes.

Q. In other words, one who goes into the market to buy a royalty of a lessor would pay for it something that would be less than the total amount that over the years would be returned?

A. He would expect interest on his money and a profit on his investment.

Q. Exactly, so if, for instance, you were buying an oil royalty of a lessor—I think you said you worked for the Pacific Western Oil Company and Mr. Geddy? A. Yes, I have.

Q. Would you have advised him to have paid presently, that is, at that time, \$62,250 for Maria Faria's one-eighth interest in the oil and gas to be produced from this property?

A. Yes, your Honor, because—

Q. How would you possibly be able to calculate the value of the lessor's oil royalty without having some production basis upon which to make that calculation?

(Testimony of John H. Wents, Jr.)

A. There are hundreds of transactions, your Honor, in oil royalty interests [685] prior to the date when production has been established. In other words, it is a commodity which is bought and sold on the open market.

Q. But how would you figure how much you would pay for a future return of oil when you would not know how much oil was going to be produced from that property or have any basis for calculating it?

A. That is purely a price which has been arrived at by trading in this. The trader in these interests—in other words, we are assuming that the man who buys has a knowledge of what he is buying, and the man who sells has a knowledge of what he is selling, and those people have made these transaction prior to that time. If they fail on one transaction they gain on another. In other words, in an unproven royalty paid is only a fractional part of that which would be paid for a proven royalty.

Q. I understand. What you mean is that one undertakes to pay out money in the open market to buy a lessor's royalty in a property that is yet unproven, that is speculative.

A. It was speculative. In other words, your Honor, the acre per cent may be worth anywhere from a few dollars to \$25 for an unproven royalty, but in a proven royalty it may go up in hundreds of dollars per acre per cent.

Q. Suppose you had an oil royalty of a lessor and you had a production record to show that the

(Testimony of John H. Wents, Jr.)

property produced so much oil; you would then be able to calculate the longevity [686] of the production, wouldn't you?

A. Yes, your Honor.

Q. And if you are able to show that over a period of years the property might produce for the lessor \$100,000 in future returns, what would be the factors that you would take into account in determining that that property might produce \$100,000 for the lessor over a period of years?

A. What were the factors I would take into consideration in arriving at the \$100,000 figure?

Q. Yes.

A. I would take into consideration the past productive history of the wells; I would take into consideration the thickness and the saturation of the sands—in other words, I would arrive at a volumetric figure of the possible production or probable production in barrels. I would then translate that probable production in barrels to dollars.

Q. Would you take into account how much the oil or gas was selling for at the time?

A. That is it. I would translate the barrels of oil or gas into dollars.

Q. At the price that it was then selling for?

A. The present price is the price we use.

Q. Would you make any allowance for changes in prices during the period that the one who bought the royalty would be expecting to get a return for it?

(Testimony of John H. Wents, Jr.)

A. Not so long as the price as of the date of my valuation was not disproportionate, either above or below the mean average price. [687]

Q. Would you take into account factors of uncertainty, such as calamities, catastrophe or damage to the oil field or gas fields of the property were located?

A. In some degree, yes.

Q. And that is known, isn't it, as the discount factor?

A. No, it is not, your Honor.

Q. What is the discount factor?

A. I did not employ my discount factor as a hazard factor. I employed my factor as a money worth factor. Some engineers use a higher discount rate as a compensating factor. I do not believe in that.

Q. I just want to get this clear in my mind, then, the figure that you gave here as to what you would be willing to advise Mr. Geddy, whom I am told is a very experienced oil man, the figure of \$65,250 that you would recommend to Mr. Geddy to pay for Maria Faria's one-eighth royalty interest in these 208.83 acres is not calculated upon any known factors that have to do with production and the like?

A. It is calculated on trading factors in comparable acreage, your Honor. In other words, that is the answer, because we can't use any other method of approach, and there are hundreds of trades. There are large organizations that deal in that.

Q. How would you know how to recommend to

(Testimony of John H. Wents, Jr.)

Mr. Geddy to pay \$65,000 for this one-eighth royalty if he did not know about what he could expect to get out of the production of gas and oil?

A. Your Honor, I am a geologist, too, I [688] could point out to Mr. Geddy the possibility for production on that property, and make comparisons between that property and other properties. I could also point out to Mr. Geddy that the price he would be paying for this royalty on the basis of my calculations would not exceed \$25 per acre per cent, some of it much lower, and I could point out to him that the going price for comparable royalties was higher than that figure.

Q. Then the basis of your estimation or appraisal here in this royalty matter is purely on a speculative basis?

A. That is the basis of the appraisal of lands of this type.

Q. Not, though, where they are proven?

A. Oh, this is not proven, according to my estimation. Proven means that the property is on production. That is my definition of proven.

Q. You might also, might you not, Mr. Wents, have a sand that had been developed to a depth, and by coring, you could determine to a reasonable extent from the porosity of the sand the probable contents, couldn't you?

A. We can't get the porosity of the sand except by comparison, your Honor. We could prognosticate or estimate.

(Testimony of John H. Wents, Jr.)

Q. Perhaps I am getting a little too technical. There are ways, before production actually starts, of determining within reasonable limits from the depths and character of an oil or gas sand actually encountered and drilled through the [689] reasonable probabilities of production from it?

A. Yes, there is.

Q. That is not the case here, of course?

A. Yes, it was the case here. The reasonable possibilities for production were known, in my estimation.

Q. The well had not been drilled to a point where you were able to say that the well had penetrated seventy, eighty, ninety, one hundred or one hundred and twenty-five feet of designated sand?

A. In my opinion your Honor—

Q. But the well had not been drilled to that point?

A. Your Honor, may I explain something in that connection?

Q. Just answer my question first.

A. The well had not been drilled to that point at that time. However, your Honor, the well had been drilled to a depth to give us the marker points whereby the geologists could estimate the depth at which things could be encountered with a very fine degree of error.

Q. It is on that speculative basis that you have stated that you based your valuation of this oil royalty?

A. Yes, it is, your Honor.

The Court: I am sorry to have taken up so much

(Testimony of John H. Wents, Jr.)

of the time of Counsel in this matter, but I wanted to find out the basis upon which—a matter that was not touched by Counsel—the royalty was calculated by the witness. We will take the morning recess at this time, ladies and gentlemen. Please bear in mind the admonition of the Court. [690]

(Recess.)

Mr. Scampini: I have one more witness, Mr. Bradford.

WILLIAM G. BRADFORD

recalled for Defendants; previously sworn.

The Clerk: You have already been sworn, Mr. Bradford. Will you state your name for the record? A. William G. Bradford.

Direct Examination

By Mr. Scampini:

Q. I believe you already testified, of course, Mr. Bradford, when I asked you concerning your activities in the oil business. I will now ask you what experience or what activities have you engaged in in connection with the purchase and sale of oil leases and gas leases, and royalty interests owned by lessors in oil leases or gas leases?

A. Well, I started doing that work about 1933 or '34; somewhere along about 1933, the latter part of 1933, I believe, and I have stayed in that line more or less steadily up to about a year ago. Of

(Testimony of William G. Bradford.)

course, I still do a little on the phone at home. In the last year I haven't done much.

Q. For what companies have you purchased or sold oil leases or gas leases during these years?

A. Well, I have a memorandum here. Well, I did work for the Sunset Oil Company, Barnsdall Oil Company, Bankline Oil Company, Signal Oil Company, Master Petroleum, the Hawaiian Exploration Company, J. E. O'Donnell, Century Oil Company, Republic Petroleum, Mohawk Oil Company, Southern California Petroleum, E. A. Bender [691] oil operator, S. W. Brooks Company.

Q. When you say you have done work for them, what do you mean?

A. I purchased leases for those people.

Q. In what territory?

A. Well, practically all over the State of California, here, wherever there has been what we would call a likely place, or a hot spot, as we know it.

Q. Any place outside of California?

A. Yes, I have leased lands in New Mexico.

Q. Have you bought and sold oil leases or gas leases or royalty interests for your own account?

A. I have.

Q. How many transactions of that character can you state, approximately, you have engaged in?

A. Well, I don't know just how many deals I have been in on my own.

Q. Give us an idea.

A. I would say 20 or 30, probably.

Q. What fields?

(Testimony of William G. Bradford.)

A. Well, in fields, what we call the Los Angeles Basin and San Joaquin Valley.

Q. How many acres of land would you say were involved in oil leases or gas leases you have handled in the last ten years for the account of oil operators or oil companies?

A. Well, including oil operators and oil companies and myself that I have done, I would say close to 200,000 acres of land.

Q. In approximately what districts?

A. Well, the majority of that big acreage has been up in the San Joaquin Valley, Kern County, Tulare County, Fresno County, Madera County.

Q. Are you familiar with the market for oil and gas leases, [692] or royalty interests.

A. I think I am familiar with it.

Q. Can you state whether or not there is an established market for the trading or purchasing and sale of oil and gas leases, or royalty interests?

A. Yes, there is a market at all times for each of these——

Q. There is always a buyer and always a seller at the right price for oil and gas leases or royalty interests?

A. That is right.

Q. Does that rule apply in cases of leases or royalty interests on land which have not yet actually been proven as well as on lands which are in production?

A. Yes.

Q. Have you dealt in any such transactions, yourself?

(Testimony of William G. Bradford.)

A. I have. I dealt in what was known as a rank wildcat where there is no well drilling, from just what might be rumors, where somebody was in there leasing or blocking up for a wildcat.

Q. When you visited the property of Cal Bay Corporation in December, 1944, did you make an investigation of the acreage owned by Cal Bay Corporation under lease?

A. I looked the property over. I did.

Q. Did you determine the acreage of land held by Cal Bay Corporation under lease?

A. I believe I have it here, if I can refer to a note on the amount of acreage.

Q. It is right here on the map. Did you determine at that time, did you make inquiry——

A. Yes, I looked the acreage all over that they had. [693]

Q. Did you look at the location of the various leases? A. I did.

Q. Did you determine the terms and conditions of the leases?

A. I did; I looked the leases over.

Q. What purpose did you have in mind when you made those investigations?

A. Well, I was going to buy some acreage up there for myself and for Mr. Bender; he is the man who sent me there; he said, "I have information that I got that there will be a hot spot going on up there, you go and get some acreage for me."

Q. You also testified you actually worked on the well? A. I did.

(Testimony of William G. Bradford.)

Q. Based upon your knowledge in buying and selling for your account and the accounts of other concerns oil and gas leases and royalty interests, and based upon your own personal investigation of the properties in question, and the other results obtained in the course of drilling the Faria well, are you in a position to state whether or not you arrived at an opinion as to the fair market value of the leasehold estate of Cal-Bay Corporation and Joseph Faria, Jr., and the royalty interests of Mary Faria, Edward Faria, and Mae E. Roche at or about July 24, 1944? A. I have.

Q. Now, taking up the 208.83 acres of land leased by Cal-Bay Corporation from Mary Faria and taken by the Government pursuant to this complaint, which is Parcel 59 in the complaint, [694] have you formed any opinion as to the fair market value of the leasehold estate of Cal-Bay Corporation on those 208 acres, more or less, as of January 15, 1944? A. Yes.

Q. What is your opinion?

A. Well, I figured on the 208 acres there and the well at a fair value on the thing. I figured the whole at \$208,000 for the 208 acres, that is \$1000 an acre, for the reason the well is connected with it and I know what they had there. I seen, myself, and that is the reason I based the price on that. I allowed for the well \$150,000.

Q. (By Mr. Scampini): Counsel has just brought to my attention that I used the date of Jan-

(Testimony of William G. Bradford.)

uary 15, 1944. I meant January 15, 1945. Is that the date to which you are now giving your value?

A. Yes, that is the date I made up the value when I was up there.

Q. What was the total value that you placed on the entire leasehold estate of Cal-Bay Corporation on the 208 acres?

A. Well, including the well, acreage and all, I placed a value of \$358,000.

Q. With respect to the leasehold estate of Cal-Bay Corporation in the 5 acres leased by it from Edward Faria, Parcel 58, have you any opinion as to the fair market value of that leasehold on January 15, 1945?

A. I have.

Q. What is that opinion?

A. I would say \$5000.

Q. With respect to the 4.96 acres, just under 5 acres, leased by Cal-Bay Corporation from Mae E. Dutra Roche, being Parcel 57, taken by the Government, have you any opinion as to what the [695] fair market value of that leasehold was as of July 24, 1944?

A. I give it the same value as I did the other five acres. I call it a five-acre piece. It lacked a little bit of being five acres.

Q. What is that value?

A. \$5000.

Q. With respect to the leases retained by Joseph Faria and in respect to the 63.91 acres of land retained by Joseph Faria from the Mary Faria lease, and taken by the Government as part of Parcel 59, being the portion that I am now indicating with

(Testimony of William G. Bradford.)

my pencil, marked in yellow, have you any opinion as to the fair market value of the leasehold estate of Joseph Faria in those 63.91 acres as of January 15, 1945? A. I have.

Q. What is your opinion?

A. I call it 64 acres; I valued that at \$51,200.

Q. How much per acre is that?

A. \$800 per acre.

Q. With respect to the royalty interest of Marie Faria, you know what that royalty was under the lease? A. I do. It was one-eighth.

Q. With respect to that one-eighth royalty interest of Marie Faria in the 208.83 acres of land taken by the Government from Cal-Bay Corporation, being portion of Parcel 59, have you any opinion as to the fair market value of that royalty interest as of January 15, 1945? A. I have.

Q. What is that opinion?

A. Well, I valued that 208 acres, \$200 an acre, \$41,600. [696]

Q. When you say you valued those 208 acres—

A. That is the royalty, the 12½ per cent, all the woman would ever get out of it if it was put on production.

Q. With respect to the royalty interest of Edward Faria which was likewise one-eighth in the 5 acres of land owned by him and leased by him to Cal-Bay Corporation, Parcel 58, have you any opinion as to the fair market value of that royalty interest as of January 15, 1945? A. I have.

Q. What is your opinion?

A. Well, I give it \$200 an acre, \$1000.

(Testimony of William G. Bradford.)

Q. I take it you mean you value the royalty interest at \$1000? A. Yes.

Q. With respect to the royalty interest of Mae E. Roche in the parcel of land owned by her which is just under 5 acres, and constituting Parcel 57 taken by the Government, and which royalty interest is likewise one-eighth, have you formed any opinion as to the fair market value of that royalty interest on July 24, 1944?

A. Yes, I give her the same thing as I did the other one. I call the two five acres apiece.

Q. What is the value of that royalty interest?

A. \$1000.

Q. Have you formed any opinion, Mr. Bradford, as to whether or not there was any substantial change in the market value of any of the leaseholds in respect to what you have testified, or any of the royalties between July 24, 1944, and January 15, 1945?

A. I don't understand that question. [697]

The Court: Read the question, Mr. Reporter.

(Question read.)

A. Well, if I understand your question right, after the well has been abandoned, taken out of there——

Q. (By Mr. Scampini): That would be after January 15th. I am referring you to the interval of time between July 24, 1943, and, let us say, December 15, 1944.

A. No. I would say the price was all right.

Q. Was that substantially the same?

A. Yes.

(Testimony of William G. Bradford.)

Q. Upon what information available to you or possessed by you have you formed your opinion as to the value of the leasehold estate of Cal-Bay Corporation in the 208.83 acres of land?

A. Well, I reached a value there. I am not an engineer, but I talked to a lot of them, and I get to see a lot of them. I try to keep in touch with the market and know what the market will pay, and on my past experience in drilling and producing oil wells and the acreage I have handled, and the structures I have followed up to try to keep up with them, I know just about what people will pay for it, and what I think it should bring, and what I think is a fair price for them.

Q. Would that reasoning apply in respect to the other values fixed by you as to the remaining parcels?

A. Absolutely.

Mr. Scampini: I am not going to go into any question of severance damage from this witness, so you can take the witness, Mr. Bourquin. [698]

Pardon me, Mr. Bourquin; I overlooked one royalty interest, there are so many complications here.

Q. Have you formed any opinion, Mr. Bradford, as to the fair value of the royalty interest of Mary Faria in the 63 acres of land taken by the Government from the lease of Joseph Faria, being portion of Parcel 59?

A. I have.

Q. What is that value?

A. I call it 64 acres. I give it \$150 an acre. \$9600.

(Testimony of William G. Bradford.)

Q. What is the total value of the royalty interest of Mary Faria in the 208 acres taken from Cal-Bay and the 63 acres taken from Joseph Faria?

A. \$51,200.

Q. Is the total? A. Yes.

Q. Would that value be true, approximately correct, at any time between the period of July 24, 1944, and December 15, 1944?

A. I will say the royalty would be about the same, from the information I have on it later.

Mr. Scampini: That is all. You may take the witness.

Cross-Examination

By Mr. Bourquin:

Q. Mr. Bradford, counsel must have overlooked this. Did you estimate a value for the portion taken from the Geraldine Faria piece, the half-acre, .65 of an acre?

A. I wouldn't give you a dime for it.

Q. You wouldn't give a dime for it?

A. It is too little to operate on. You couldn't drill a well on it. You would only get yourself in a lawsuit if you tried to whipstock, and the operators all know that. That little half acre there [699] isn't being covered. I don't want it.

Q. Did you conclude that any damage had been suffered to Joe Faria's holdings in the Geraldine Faria piece by reason of the Government taking the property?

A. Let's see which piece you are referring to.

Q. Joe Faria is the yellow line of the Geraldine Faria property.

(Testimony of William G. Bradford.)

A. Do you want me to say if Mr. Faria suffered any damage by the taking of that little half acre? No.

Q. Did you conclude his leasehold interest in the Geraldine Faria piece had suffered any damage by reason of the Government taking what they did of the Cal-Bay Corporation lease?

The Court: The attorney did not examine him as to that.

Mr. Bourquin: All right. I will leave it out then.

Q. Mr. Bradford, did you buy for yourself or anyone else any of the surrounding acreage not included in Cal-Bay lease and the Joseph Faria lease when you came up there?

A. I didn't buy a dime's worth of any property up there.

Q. Did you sell any? A. No, I didn't.

Q. I understood you to say that your opinion of value of the properties that you have voiced opinion upon here this morning suffered no change between July, 1944, and January 15, 1945.

A. Well, they suffered a change in this way, that you take the well out of there, which I thought to be a gas well, and still think so, naturally if you take that all away from there people are going to think twice, and it will give the property [700] a black eye, it would be hard for me to get an operator to go up there to drill a well without he knew what I know. Naturally, he won't pay the money for it. [700-a]

(Testimony of William G. Bradford.)

Q. Was your opinion of the value of the Cal-Bay lease in the Mary Faria property as of July, 1944, any different than your opinion of its value as of January 15, 1945?

A. No, I would say that is the same as long as we know what we have got there.

Q. Was your opinion of the value of the Cal-Bay lease in the Mary Faria property as of October 28, 1943, any different than your opinion of the value on January 15, 1945?

A. Well, it is different in this way: I was not there and seen those tests, but from the information that I have, there is where my values would start.

Q. Would you value the Cal-Bay lease in the Mary Faria property at the same figure, namely, \$208,000, that you valued it as of October 28, 1943?

A. Yes, I believe I would have to now.

Q. In your estimate of the value of that property you made an allowance for the well, is that correct?

A. I did, of the properties there that the well was on, yes.

Q. On what basis did you do that?

A. Well, from the information that I have there they spent nearly \$300,000 on that well—\$270,000 or \$280,000—and you had to spend that in order to show whether you had an oil or gas field or not; otherwise you would never know. So it naturally had a value.

Q. What did you base it on? What you thought would be the reasonable cost of drilling the well?

A. Well, in this [701] way——

(Testimony of William G. Bradford.)

Q. Wait a minute. Can't you answer that yes or no, and then explain?

A. Will you repeat the question?

(Question read.)

A. Well, I won't call that reasonable, that \$280,000, or exactly reasonable.

Q. Can you answer whether you base it on what you hold to be the reasonable cost of drilling the well?

A. I will answer and then explain, if I have a chance. The reason for that—I might go further. I believe now, with the knowledge I have of that formation, I believe I can go in there and drill a hole for \$100,000 to \$150,000 and complete it. But not knowing what I know, at the time they went in there they didn't know what those shale beds were and the trouble they had to go through them.

Q. So your process in arriving at a value of \$350,000 for the Cal-Bay lease on the Mary Faria property was a process of adding to the value of the lease the reasonable cost of drilling the well, is that correct?

A. Well, somebody has paid for it.

Q. Will you answer that yes or no?

A. All right, I will answer that yes.

Q. In arriving, for example, at your royalty estimates, what did you estimate the production would be?

A. On that well, had it been properly finished, with the showings I [702] seen there, I believe the well would have three to four million cubic feet if it had been properly brought in from the showings I had seen.

(Testimony of William G. Bradford.)

Q. On what do you base the belief that that well would have brought in three to four million cubic feet of gas?

A. The amount of weight of mud put in that well, and the way the well pushed out, and as quick as it did, from the past experience I have had, about thirty-three years of drilling them.

Q. In other words, sir, would you estimate from the weight of the mud there to hold the pressure you estimated a figure of the volume of the well, is that correct?

A. Well, I have had quite a bit of experience——

Q. Please answer, and then you can explain.

A. I will say yes, and then explain. From the information and the time that I have worked around wells, and I have brought in some pretty good-sized ones, gas wells and oil wells, I have pumped a lot of mud in, mixed a lot, and I think I know when mud is in good shape, whether it is capable of sealing off gas or whether it is gas cut or not, and the type of mud I have seen mixed and put in that well, good clean mud, 115 or 116 pounds weight, that it would have taken that to kill it, I would say it takes a lot of gas to do that, three or four million, maybe five million cubic feet of gas to have that much punch to it and keep coming. [703]

Q. Do you conclude volume of production from pressure alone? A. Well, it takes——

Q. Please answer that and then you may explain.

(Testimony of William G. Bradford.)

A. I would say no, but as long as I stayed there and watched that well, and the past history that I had on it, from men I believed to be reliable that know the oil and gas business from an engineering standpoint, and the drillers on the well and what had taken place before and what had taken place after I got there, that is how I base it that the well would have made a lot of gas had it been properly brought in. But by running a tester, and by referring to a Johnson test will not give you the actual production the well is capable of making as quick as if you perforated your pipe and did the right job to bring it in proper.

Q. You mean, you base your conclusion on the fact that perhaps those Johnston tests in October, 1943, did not give the real showing of the gas present, is that your view?

A. Neighbor, there never has been a Johnston tester or any other tester manufactured——

Q. I will ask you again: Do you base your opinion upon the fact that the Johnston test made in October, 1943, did not give a true picture of the gas in that well? A. That is right.

Q. That is what you based it on?

A. Yes, for this reason: you cannot get what a well will produce by just running a [704] tester. You run that to see if you have got something worth while.

Q. You were never at the well before December 10, 1944, were you?

A. I believe that is about the day I got there.

(Testimony of William G. Bradford.)

Q. You, however, I assume, reviewed the log on the well as we have reviewed it here, did you?

A. Well, I didn't review the log so much as I got it personally. I talked to drillers who had been on the property. I talked to Mr. Mayes.

The Court: Yes, but he just wants to know if you reviewed the log.

The Witness: I looked through the log, yes. I did not make a study of it.

Q. (By Mr. Bourquin): Did you pay more attention to what the drillers told you that were on the ground? A. Yes, I did.

Q. Do you base your opinion of value here upon what drillers told you of their experiences in drilling that well?

Q. What the drillers have told me and what their engineers have told me—that is what I base it on.

Q. Your opinion of value is based not so much upon the log showing, but upon what the drillers and engineers told you had transpired in the exploration, is that true?

A. And the Johnston test——

Q. Please answer the question?

A. Yes, sir, it is.

Q. And when I say your opinion of value, I mean your opinion [705] of volume, which you would translate your opinion of value, is that true?

A. Well, the amount of gas that I think the well would make, yes.

Q. And what you think from what they told

(Testimony of William G. Bradford.)

you the well would make is the basis upon which you estimate the value of the royalties, is that correct? A. Well——

Q. Please answer that yes or no.

A. I will say no, that is not correct exactly for this reason: because there is the time in every oil well in the world that is being drilled, a wildecat well, in the oil man's language, when the boys that are hungry for oil and gas leases will go in and pay more money at that particular minute than they will at any other time.

The Court: Because they feel it would be a good speculation?

The Witness: It is a good shot, your Honor, that is it. They say, "I believe you have something." Then maybe next week they wouldn't give you a dime for it.

Q. (By Mr. Bourquin): Let us clear this up. You said, One, you did not accept the Johnston test as conclusive.

A. That is right.

Q. You said, Two, that you did not pay so much attention to the log because you were more interested in what the drillers told you, is that true?

A. That is right. I would rather have a man tell me a thing than to see it in figures. [706] because then I will know. He might put down the wrong figures.

Q. In estimating what you said here to be the volume of gas in that well, do you base it upon what the drillers and the engineers told you when you visited the well?

(Testimony of William G. Bradford.)

A. And what I seen myself.

Q. Please answer that. A. Yes.

Q. Yes.

A. And with what I seen myself.

Q. And what you saw yourself commencing with December 1, 1944? A. That is right.

Q. Are you a geologist?

A. No sirree.

Q. Did you attempt to survey or investigate the geology?

A. Yes, I talked to, I would say, a half dozen geologists in the State of California regarding this area, and even the property the well was drilled on.

Q. So again, for support that you gave your conclusion, you based it on what geologists you had talked to had told you, is that true?

A. Yes, and what I think I know myself.

Q. For a moment on this test business, what is a production test?

A. A production test? Well, we go in to make a production test. Maybe we will make it by pumping a well or maybe we will make it by running a Johnston experimental test, or maybe we will set a packer and see if it will blow. There are a half dozen ways of making a production test.

The Court: What he means is a method of determining how much a well will produce. [707]

The Witness: When you come to an actual production test, your Honor, that means how much can I get out of this property.

(Testimony of William G. Bradford.)

The Court: That is what I said: It means how much a well will produce in quantity, doesn't it?

The Witness: Yes, either gas or oil, your Honor.

Q. (By Mr. Bourquin): When you swab a well in a production test that does not give you a good test, does it?

A. Well, not always, because there can be enough mud and mud materials in this plaster that we use, and which we have to use to hold back gas, and there are times when you can swab four or five times and have nothing, and then maybe she will break loose and come in after you lower your column of fluid—that is a test that they all go through—but I wouldn't call it a fair test.

Q. Would you accept a production test, a swabbed hole production test as a fair test of the volume of gas in a well?

A. No, I would not accept that as absolutely all the well would make, no, sir.

Q. What tests do you apply when you test a well for its productive capacity?

A. Well, we set a string of pipe, cement it off, get an okeh from the Division of Oil and Gas that we have no water transfers, that is, all our water has been shut off above the zone we are going to test, and we go in to gun-perforate that, or else we drill it out.

The Court: To make a long story short, what you do is you run the well and measure how much comes out of it, don't you?

A. We can say that, Judge.

(Testimony of William G. Bradford.)

Q. (By Mr. Bourquin): On that score, did you know or ascertain from your investigation that when Cal Bay went back to resume drilling in July, 1944, that before it did any drilling at all it spent the time until January 25th swabbing the well and making production tests; did you ascertain that?

A. Well, I taken all that into consideration, yes.

Q. Did you ascertain that?

A. I don't know what you mean by "ascertain."

Q. Did you know that?

A. I knew that they did those things.

Q. You knew that they did that?

A. Yes, I was told that.

Q. Did you examine the log?

A. I was told it by Mr. May, by Mr. Byron Norris, that they had made those tests, and the Johnston test man.

Mr. Scampini: Haven't you the date wrong, Counsel?

Mr. Bourquin: I want to know what this witness knows. I am not so much interested in straightening out the facts of this case as to just what he knows.

Q. Did you know from the time they went back to the property in July, on July 25th, they spent all of their time in swabbing the well and making production tests?

A. Well, I only know what I was told.

Q. Did you know that? Were you told that?

A. In July of what year?

Q. 1944.

(Testimony of William G. Bradford.)

A. They did not spend all their time, no. I was told that they went in to make tests.

Q. Did you know how much time they spent in making the production tests in 1944?

A. I do not know of any production tests that were made in 1944.

Q. You do not know of any?

A. All the tests I know that was made at any time was maybe one or two occasions with the [709] testor, and the exact dates I don't know. I didn't check into the log.

Q. What tests do you mean?

A. The Johnston.

Q. That is the only test you knew to be made of the well?

A. You mean they had perforated the well and had swabbed the well?

Q. You knew they had perforated the well and had swabbed it?

A. I had been told that, yes. I wasn't there.

Q. Did you know that they had set a packer at 4140 feet in July, 1944, and the packer would seal off what was below, wouldn't it?

A. That is right, if it was set.

Q. They had swabbed out the hole below the packer; did you know that?

A. I didn't know that they had set the packer. I wasn't told exactly, as I remember it, that they had set a packer, no, but that is a method.

Q. You did not know that they had set a packer and swabbed out the hole below 4140 feet in July, 1944?

(Testimony of William G. Bradford.)

A. I was told that they had swabbed the well.

Q. Did you know that, please, that they had set a packer and swabbed the hole out below 4140 feet?

A. I wouldn't say I knew for sure whether they said they set a packer, or not. I know they told me they had made those tests, and that is one way of making a test.

Q. Pretty good way?

A. It is a fair way. I like that way equally with the Johnston test, I will put it. [710]

Q. That is an exact test, isn't it?

A. No, not an exact test.

Q. Not an exact test, when they set the *backer*, swab out the hole below, and take a test of exactly what gas they can get in a hole empty of mud?

A. It serves the same purpose that it did with two different instruments entirely.

Q. They were really then testing the merits of their 1943 Johnston test, weren't they?

A. Yes, I would give a test.

Q. Weren't they? Weren't they then testing the merits of their 1943 Johnston test?

A. I guess that is right.

Q. Did you know that at that time they shot new perforations in the casing at 4270 to 4280? Did you know that?

A. I was told that they did gun perforating, yes, sir.

Q. In other words, that they had holes there from 1943 that had never been sealed. They shot new holes at 4270 to 4280; they set the packer; they

(Testimony of William G. Bradford.)

swabbed the hole. In other words, they did bring up by their tubing what gas was there. Did you know that they did that?

A. Yes, sir, I was told that they swabbed for production.

Q. Did you know at that time they could not get enough gas to make it commercial? Did you know that?

A. No, I didn't know that.

Q. They did not tell you that?

A. No, they didn't tell me they didn't get enough to make it commercial.

Mr. Bourquin: That is all. [711]

Redirect Examination

By Mr. Scampini:

Q. Did you know of your own personal knowledge that as a result of swabbing the well in July, 1944, gas in commercial quantities was not discovered or obtained?

A. Mr. Scampini, I did not get that question exactly.

Q. Perhaps I did not make myself clear. I was rather confused, myself, in what counsel was driving at. You did know swabbing had been done on the well in July, 1944, didn't you?

A. I was told that, yes.

Q. Were you told by anyone or did you know of your own knowledge that not sufficient gas in commercial paying quantities was obtained as a result of that swabbing operation?

(Testimony of William G. Bradford.)

A. I was told that they had swabbed the hole and made a test by perforating and got one hundred or one hundred twenty-five thousand cubic feet of gas.

Q. Did you give that factor any consideration or weight in arriving at the figures of value you testified to? A. I certainly did.

Mr. Scampini: No further questions.

The Court: Is this the last witness?

Mr. Scampini: It is my last witness, except I desire at this time to move the court for an order—

The Court: Are you through with this witness?

Mr. Bourquin: I want to ask him one question.

Q. Were you told what showing they got in the Johnston test made [712] in October, 1943?

A. I did not get exactly what you said there.

Q. Were you told what showing of gas they get on the Johnston test made in October, 1943?

A. I believe I was told of every showing they had there.

The Court: He wants to know if you were told of that one. A. I would say yes.

Q. (By Mr. Bourquin): What did they tell you about the showing on that test?

A. I don't remember exactly what they did tell me.

Q. What information did you have as to what the Johnston test disclosed in 1943?

A. Well, that the hole had showed one hundred to one hundred twenty-five thousand cubic feet of gas.

(Testimony of William G. Bradford.)

Q. You answered Mr. Scampini that somebody told you what the well showed on this production test made in July, 1944, did you?

A. Well, I probably did answer him, yes.

Q. Who told you that?

A. I got my information on the test from Mr. Norris and Mr. May and the other men on the well.

Q. Mr. Faria?

A. Yes, I guess Mr. Faria may have told me that very thing, too.

Q. What did Mr. Faria tell you he got on the production tests that they made in the days during July, 1944?

A. That I don't recall.

Q. In other words, when you are talking about one hundred to one hundred twenty-five thousand cubic feet, you are talking about the showings on the Johnston test in 1943, aren't you? [713]

A. Well—

Q. Please answer my question.

A. Yes, sir, if that is the date they made it, that is what I am talking about.

Mr. Bourquin: That is all.

Mr. Scampini: No further questions. I am through with my case, may it please the court, except I desire to move the court for an order directing the plaintiff in this case to exhibit to us for inspection a certain daily record made by one of the inspectors, placed by the Navy on the Cal Bay property, to observe and report concerning the drilling progress of the Faria well. I have asked for permission to look at that record. The permis-

sion has not been granted to me, and I believe it bears and has therein evidence of material value in our case.

The Court: You mean that there are matters there—you do not want to contradict your own record?

Mr. Scampini: No, your Honor.

The Court: I do not quite get the materiality of the request.

Mr. Scampini: It confirms some of the testimony which has been brought out during the plaintiff's presentation of the case, your Honor, according to my information. I do not know.

Mr. Bourquin: I think he has a misapprehension about that, your Honor. If your Honor wants to, I would be glad to go into a discussion of that matter, but I do not think this is the place for it. Any information we have we are going to give him in [714] this case.

Mr. Scampini: Very well. That will be sufficient.

The Court: Aside from that matter——

Mr. Scampini: The defendants rest.

Defendants Rest

The Court: Gentlemen, I am going to excuse the jury this afternoon because I feel we should now spend some time in settling the matters of law that arise in connection with motions and other matters. Rather than wait until the entire case is finished and do it in a hurry prior to counsel's argument, I believe we should take those matters up now. So,

if there is no objection by counsel I will excuse the jury until Tuesday morning.

Mr. Scampini: May it please the court, I desire to state that my associate, Mr. Hettman, who has worked up most of the law in this case and would be invaluable in the argument of any question of law, is rather ill today, and confined to his bed, and it would be very inconvenient for such discussion.

The Court: We will see how we will get along. We will have a preliminary discussion about it this afternoon, and if necessary resume it on Monday, but I think it would be better to settle this matter now rather than to wait until Monday. It is not too unpleasant a day, and maybe the jurors can make use of the afternoon in some more pleasurable pursuit.

Ladies and gentlemen, the trial of this case has not yet [715] been concluded. I do not think it will take very much longer. We will take a recess as far as the jury is concerned until next Tuesday morning at ten o'clock. I have another calendar on Monday that will make it impossible to go on with this case on Monday. I will ask you in the interval, in the recess period between now and Tuesday morning at ten o'clock, to remember that it is still your duty not to converse among yourselves concerning this case nor to permit anybody else to talk to you about this case, nor are you to form or express any opinion until the matter is finally submitted to you for decision. The jury will be excused until Tuesday at ten o'clock, and we will recess until two o'clock this afternoon.

(A recess was taken until two o'clock p.m.)

Afternoon Session, January 31, 1947

2:00 o'Clock P.M.

(The jury was not present.)

The Court: Have either counsel any motions or matters that they wish to bring up before we go into the matter of instructions?

Mr. Bourquin: Yes, your Honor, the Government has.

At this time, if the Court please, the Government desires to make a motion to strike the testimony of the witnesses Wents and Bradford in all respects with reference to and inclusive of their opinion evidence of value of the subject property, both the leasehold and royalty values, after the fashion that they have followed in giving their opinions.

In connection with that motion and as a ground thereof, reference is to the fact that both these witnesses have expressly based their opinion of value upon the possibility of an oil or gas deposit which we submit by itself is wholly speculative, conjectural and not a proper basis or sufficient basis to warrant an estimate of finding of market value, but in addition to that and over and above it each of the witnesses has predicated his estimates of the values expressed in his opinion upon a wholly unknown, unascertained and unsupported estimate of the volume of gas or oil which he forecasts the property may contain.

In the case of Mr. Wents, he said that in arriving at [717] his figure, his value, his process was ordi-

narilly to gauge that from the record of past production and evaluate selling price. In other words, by equating from there the probable return from the assumed deposit of gas. That by itself would seem to challenge the rule that that is not a proper basis for an estimate of market value, because it is dealing in an unlawful equation of computing of what the land or product thereof would return when in the process of development and sale it was returned.

In that respect we think the vice in that is more to be found in the circulation of the production than it is in his reliance upon what the matter would sell for, because he has avowed that he has considered and made allowance for the various contingencies that have occurred to be encountered in the cost of and production of the possibility which he opines, but fatally that he form his opinion of value is the fact already referred to and which he avows that he has no evidence upon which to estimate the quantity of gas or oil that he may expect would go into this process of computation of the return to be arrived at. So that we think his opinion as far as—well, it meets if it does not surpass any speculative opinion to be found in the books discarded by courts because of the fact it is dealing in unknown factors, in assumptions and speculation and conjecture.

As regards the witness Mr. Bradford, he is only different [718] in his testimony in this respect; he says that he has assumed or estimated a quantity there from the evidence of pressures that were re-

ported to him, but, he says he predicated his estimate of the volume and his estimate then of the value or computation of volume and return upon information received from various individuals not identified further than to say other drillers and engineers and geologists around the well, and he also says that he pays but very little attention to the evidence in the case contained in the log. So we submit to your Honor again that in his case there is no basis in the evidence before the Court and the jury of testing that opinion, and it must be again like Mr. Wents, that he has indulged in assumption and speculation, conjecture, on matters that he confesses he does not know and may not exist in the case.

Secondly, as a part of the motion, or in addition thereto, I desire to make the motion to strike so much of the testimony of each of the witnesses as pertains to and includes the items described by them as cost of the drilling of the well in the case. Each of the witnesses says that he arrived at his estimate of the market value of Parcel 59, that was the leasehold interest of Cal Bay in Parcel 59 on the Mary Faria piece, by a process of first estimating the market value of the mineral rights or oil and gas rights in the property, and then by the process of simple addition of [719] the cost of drilling the well he has arrived at the total value. That challenges the rule that because production costs and so forth are so involved with uncertainties and contingencies and management and what not that they do not furnish any criteria for evaluating the

property, and, moreover, as must appear in this case, the very testimony of the witnesses themselves, to that testimony this motion is addressed, we know that in their view of the matter the evidence was unsupported. Further, it would remain to be seen whether whatever amount was spent in exploration was of any value whatever or not.

Certainly, as part of and in addition to the same motion to strike, we move to strike the testimony of the witness Wents in the respect of his testimony of the severance damage or damage which he voiced the opinion accrued to the land or interest not taken in this proceeding upon the ground that, first, his bases challenge the law in this case as, for an example, the witness testified that his opinion of severance damage accruing to the Geraldine Faria Parcel No. 64 was the damage which he was of the opinion accrued not in any major respect because of the taking of any part of that same lease or interest, but accrued, he said, because of the Government taking of an interest in an entirely unrelated lease or interest, namely, the lease of Cal Bay. So when I say it challenges the law it does not meet, does not approach the [720] requirement and the recognition of the law, because severance damage, according to CCP 1248 where it says the damage may be recovered when the part taken is a part of a larger part. These two parts, these two leases, are separate entities, whereas they once were one belonging to Bud Hildebrand and Joe Faria, and Joe Faria caused a severance long since and long before this taking. So it is rather hard to follow

any theory that would say that the taking of the Cal Bay lease would inflict any damage upon the property subject of the other leases. We might just as well go into separate counties. As far as the law goes, they have a theory that is at variance with the law that neighboring properties are deprived of the merits or advantages of the investigation being carried on by Cal Bay and, therefore, they are damaged. That would be true, your Honor, as the witness himself indicated, in any property that was not even attached. We submit in those three respects the evidence is wholly lacking in that criteria necessary for the support of an opinion of market value.

(The objections were argued by respective counsel.) [721]

The Court: I would feel more inclined to deny the motion to strike all of the testimony, but I think that I shall have to make some comment upon the testimony in the instructions to the jury.

Mr. Scampini: That is entirely proper, your Honor.

The Court: I want counsel to know about that in advance, so that they can take that into consideration. I will deny the motion to strike all of the testimony, the first motion that you made, Mr. Bourquin.

Mr. Bourquin: Yes, your Honor.

The Court: I will deny the second motion, too, with respect to the cost of the well. It might be it might have some bearing on it. I am not pre-

pared to say at this time. You can renew that motion in other forms at the appropriate time, if it becomes necessary.

However, on this question of severance damage I feel that the showing is inadequate, Counsel. If you read the Miller case, it does not seem to me that this is severance damage. What was your theory on that question?

(Further discussion between the Court and counsel on severance damage.)

The Court: I will deny the motion to strike the testimony as to severance damage without prejudice to its renewal at a subsequent stage of the proceeding, if Counsel wants to present it again. [722]

Tuesday, February 4, 1947 10:00 o'Clock A.M.

The Clerk: United States of America vs. Certain Land in Contra Costa County; on trial.

Mr. Scampini: Ready.

Mr. Bourquin: Ready. At this time, if your Honor please, the Government desires to recall Mr. Bradford for another matter on cross-examination. I see he is here.

The Court: Very well.

WILLIAM G. BRADFORD

recalled for further cross-examination; previously sworn.

Mr. Scampini: I assume then, your Honor, the defendants' case has not yet rested, if this is further cross-examination.

Mr. Bourquin: We desire to have further cross-examination.

Mr. Scampini: I assume, then, the defendants' case has not yet rested.

The Court: You would, of course, be entitled to conduct redirect examination of any matter brought out in this examination.

Mr. Scampini: Yes.

Q. (By Mr. Bourquin): Mr. Bradford, in asserting that the property had a market value of \$1 an acre, looking at the Mary Faria piece covered by the Cal Bay lease, are you assuming, [723] for the purpose of making such an estimate, some minimum volume of gas in that property?

A. Well, let me see which piece of property do you have reference to here?

Q. That would be the one that the well is on, I believe, counsel.

Mr. Scampini: That's right.

The Witness: Well, here, I put that value there on that from what I have seen and what I have did, and know about what the well had done before.

Q. (By Mr. Bourquin): In making that assertion are you assuming some minimum volume of gas would exist on that property?

A. Yes. I believe it is absolutely gas land.

(Testimony of William G. Bradford.)

Q. What quantity of gas are you assuming as a basis for such a valuation?

A. I believe from my experience and what I have seen in the oil business for more than thirty years that where a well shows that matter of pressure, that that well shows, and for the amount and type of heavy mud that we used in that well, it is capable of getting a lot of gas.

Q. I will have to repeat the question. What volume of gas are you assuming as a predicate for the assertion of such a market value in that property?

A. Well, I think a well that will——

Q. Please answer. Tell us the volume, minimum volume.

A. I am believing anywhere from two million cubic feet on up.

Q. In other words, in stating that value you are assuming that [724] that well would yield a minimum of two million cubic feet of gas a day; is that correct?

A. Well, that ain't exactly correct, no.

Q. Are you attaching any such valuation to that property on possibilities rather than tests?

A. I will tell you what the——

Q. Please answer that question.

A. Well, yes and no. I will answer you on that basis, because I think that well has a great possibility of being a discovery. I have seen explorations sell up to two or three thousand dollars an acre a half mile away from the well. I sold them for that.

(Testimony of William G. Bradford.)

Q. Is the basis of your valuation that on the possibilities you believe that it would sell for \$2000 or \$3000 or \$1000 an acre?

A. From what I have seen of the well, sell for that, absolutely.

Q. How do you arrive at your figure of \$1000? Why did it have to be that, instead of \$500 or \$100, or \$10? What is your basis?

A. Well, my basis would be this, my experience, and I can go out and find a man, I may sell that man land up to that figure and not have any trouble on account of from what I have seen on the well.

Q. Why don't you say \$10,000 or \$1000?

A. Well, my purpose is putting it at that money it would sell for.

Q. Can you tell us any reason for your assertion of a thousand dollars rather than one hundred dollars, or \$10; that [725] is what I want you to tell me.

A. Well, I can tell you this, that I have seen enough with my own eyes to give an honest to God opinion that was a new discovery and there would be opened up a tract and it is up here where they have demand for that kind of gas, and it will make a commercial field if they are allowed to drill.

Q. You are assuming something——

A. From my personal knowledge I believe that to be a fact. I have got 35 years to back it up.

Q. What was your personal knowledge from which you say it would support that kind of reasoning?

(Testimony of William G. Bradford.)

A. Seeing the well under the conditions that I seen the well, and the information that I had been told by those competent engineers and geologists regarding the structure.

Q. You said your personal knowledge. What did you see, what did you know from which you could reason such a valuation?

A. Well, I seen the well produce gas.

Q. You saw it produce gas? A. Yes.

Q. Just tell us when you saw it produce.

A. I seen the well starting to blow out, when I reduced my mud down from 116 pounds down to 100 pounds, and before it started, immediately to blow out, I put brand new mud in to kill it.

Q. You mean when you reduced your mud, the mud began to surge again and to blow out?

A. When I lightened up the weight of mud they had when I got there with the small circulation I began to reduce the mud, and when I did that the well started immediately to blow out again, on the sides, right across the ditch.

Q. Started to blow out? A. Yes.

Q. That is one thing. Any other on which you reason such a value?

A. It was 110-pound mud, brand new mud, it took to kill that well.

Q. That is the second point, because you had to mix 120-pound—no, 116-pound—116 pounds, and bring the well back to a controlled condition.

A. That's right, that is to keep the well from blowing.

(Testimony of William G. Bradford.)

Q. What other thing did you base the assertion on which you reason such a valuation?

A. Well, that was satisfactory to me.

Q. That was enough for you?

A. Yes. I seen enough right there and of the information I already had on the well.

Q. Have you had any experience or any opportunity to observe the experience of others in gas explorations in Northern California before, Mr. Bradford?

A. Well, I have seen, I guess, two or three different wells come in in Rio vista, over in the Kirby Hills, I seen them, I never drilled one, I never worked on one over here.

Q. How about the well—the first of these you said, you presumed it started a blow-out. Do you know what the experience of the Richfield Oil Company was over in Potrero Hills with respect to their exploration and blow-outs over there?

A. I do not.

Q. You have never looked into that?

A. No.

Q. Don't you know that Richfield, over in the Potrero Hills, the Richfield sank three wells and got blow-outs in two of them, and tremendous pressure, and later abandoned them, and the leases are for sale for a dollar an acre?

A. I seen Shell Oil Company abandon one in a weed patch, called it a dry hole, and it came in, brought in by Danny Hogan; I know that.

Q. You have kept track of the explorations of——

(Testimony of William G. Bradford.)

A. There is no one man can keep track of all of them. I do the best I can.

Q. While we are on the subject of Potrero Hills, where is it? Are you familiar with Potrero Hills over there?

A. There are a lot of Potrero Hills. There is a Potrero Hills down south.

Q. Where Richfield Oil Company explored in Northern California, do you know that?

A. No.

Q. Do you know the location of drilling in Honker Bay that has been so much talked about here?

A. I tried to keep track of them, over in Rio Vista, Bradford Island, in the Honker Bay field; then I see Mr. Faria's well. I closed that up.

Q. Do you know of other explorations by the Ohio Oil Company, in drilling the Willard well that was later abandoned?

A. No, I don't think I do.

Q. You don't know that? A. No. [728]

Q. Do you know where the Ohio Oil Company made its exploration in the three Willard Wells?

A. No, I do not.

Q. Do you know where that is? A. No.

Q. If I told you that that was west of Willows, would that identify it for you?

A. Well, that is a mighty big country up there; you say "west of Willows." I don't know where that well was.

(Testimony of William G. Bradford.)

Q. Do you know their explorations up there, what they were, with respect to blow-outs and pressures? A. No, I don't.

Q. Don't you know one of those wells up there crated up a distance of 200 feet around the well?

A. That can happen.

Q. Don't you know it flowed a rate as high as 20,000,000 cubic feet, and yet that well and the other two have been abandoned and those leases are for sale for a dollar an acre; don't you know that? A. No.

Mr. Scampini: We object to this as purely argumentative and not going to the witness' knowledge.

The Court: No. I think it is proper cross-examination.

Mr. Scampini: Very well.

The Court: It goes to his knowledge. Overruled.

Q. (By Mr. Bourquin): Do you know the experience of the Continental Oil Company at Sites?

A. No.

Q. Do you know where Sites is? A. No.

Q. Do you know anything about the explorations of Continental Oil Company in Northern California. A. No, I haven't followed it up at all.

Q. Do you know anything their Peterson well that they sank at Sites northwest of Willows?

A. No, I don't. I didn't keep up with it.

Q. Do you know that they encountered tremendous pressure and the well blew out, and the well

(Testimony of William G. Bradford.)

was abandoned, and the leases are to be had for a dollar an acre?

A. No. I had seen land all over the State and I could buy land—we will go right back in the same field in a year and it will be worth a thousand dollars an acre.

Q. Have you ever drilled a gas well, yourself?

A. Not a straight gas well I have not, not just straight gas.

Q. Have you ever drilled a well that brought gas in a proven property? A. Yes.

Q. Where?

A. Huntington Beach, Torrance, Signal Hill, and Santa Fe Springs, Whittier, Montebello.

Q. Tell us what gas wells that you were able to have a hand in so we will know your familiarity on the subject.

A. Well, I had charge of the Gypsy, a number of their wells at Huntington Beach.

Q. Were those oil wells or gas wells?

A. They were oil and gas.

Q. Gas—wait a minute—and oil together?

A. Well, there are times when we bring a well in it will——

The Court (Interrupting): Can't you just answer the question [730] without going off into a long story? Read the question.

(Question read.)

The Witness: They were both.

(Testimony of William G. Bradford.)

Q. (By Mr. Bourquin): Now, do you know what prices leases have bought and sold for in gas explorations in Northern California, in fields of exploration, as distinguished from wells after production has been proven up?

A. Well, they run all different prices.

Q. Tell us some. Remember, let's keep in mind as distinguished, explorations as distinguished from trading in leases after production has been proved up, give us some experiences in Northern California in gas country.

A. This is after the well is in and producing?

Q. Not at all. I want you, if you will, to give us some examples of your knowledge of prices paid in the buying and selling of leases on properties in the process of exploration for gas in Northern California before production is proved.

A. Well, at the most northern California point I know of is in Madera County. That is personal knowledge that I sold any acreage, and that was \$50 an acre.

Q. \$50 an acre. What field?

A. It is not a field yet. It has not been developed yet.

Q. That is in Madera?

A. Madera County.

Q. Madera County. What company?

A. That went to the Republic Petroleum Company. [731]

Q. When was it you say you participated in that \$50-an-acre transaction?

A. That was in 1940.

(Testimony of William G. Bradford.)

Q. Has there been any exploration done there?

A. I believe the Shell Oil Company since that time has drilled a well about a mile from it, or a mile and a half, and drilled on it a dry hole.

Q. Whom did you buy it at \$50 an acre from?

A. I bought the land from Mr. Ward, a rancher. I didn't buy the land, I bought the lease at a dollar an acre.

Q. Who did buy it?

A. I bought it with Jim Conlan.

Q. Jim Conlan and yourself. What did you do with it?

A. Sold it to the Republic Petroleum.

Q. Sold it to the Republic Petroleum?

A. Yes.

Q. How much did you sell it to the Republic Petroleum for? A. \$50 an acre.

Q. When? A. 1940.

Q. What did you pay the rancher for it?

A. We paid him \$1 an acre.

Q. Can you give us any other examples of trading in gas rights in Northern California?

A. No, I don't know; that is the northern-most point.

Q. Do you know what was paid for leases in the Honker Bay field, what they bought and sold for before the field was proved up?

A. No, I don't know. I didn't deal in there.

Q. You don't know? A. No. [732]

Q. You mentioned Kirby Hills awhile ago. Where is Kirby Hills?

(Testimony of William G. Bradford.)

A. That is across the river from here—I guess you would call it across the river. I went over with Mr. Ely Peterson, General Manager of the Shell Company, and went all through there.

Q. Is it near Rio Vista?

A. It is not too far. It is back, to the best of my knowledge, kind of north and west.

Q. Is it on the slough up there?

A. No, it is not right on the slough, I don't believe, from what part we seen. It is back a ways from the water.

Q. Do you know what leases and rights bought and sold for on Kirby Hills before that field was proved up?

A. No, I do not. I didn't do any transactions in there.

Q. Don't you know that Kirby Hills bought and sold for \$10.00 an acre? A. No, sir, I did not.

Q. Didn't you know that Honker Bay bought and sold for \$5.00 an acre?

A. No, sir, I did not.

Q. In estimating the value of a royalty interest in this matter, as you have, you voiced an opinion that the royalty interest on Parcel 59 of the Cal-Bay lease was worth the sum of \$41,600, didn't you?

A. Let me see. Which piece? 49?

Q. 59. I beg your pardon.

The Court: The Maria Faria lease.

The Witness: This piece in her (indicating)?

(Testimony of William G. Bradford.)

Q. (By Mr. Bourquin): Yes.

A. Yes, that was my value on that.

Q. To arrive at that figure you assumed what you believed that well, if continued, would produce in gas, didn't you?

Mr. Scampini: If it please the Court, we object to that because the assumption is not based upon evidence in the record. It is assuming something not in evidence.

Mr. Bourquin: I am asking the witness.

Mr. Scampini: He assumed, your Honor, and then he stated as a fact that which he is supposed to have assumed, and the record does not disclose such facts.

Mr. Bourquin: Shall I rephrase my question, your Honor?

The Court: If you wish.

Q. (By Mr. Bourquin): In estimating that value of the royalty interest in that property, did you assume the amount of gas that property would produce if the exploration was continued?

A. I figured it to be proven property. There would be additional wells drilled on it. That is how I base my value.

Q. In other words, you arrived at your \$41,600 by taking an assumed volume of gas, measuring that against what it would sell for if it was there and brought in, and rating the one-eighth royalty against it, didn't you?

A. I based it on what I personally knew——

(Testimony of William G. Bradford.)

Mr. Bourquin: I will move that that be stricken, if your Honor please, and ask the witness, if he can, to answer the [734] question yes or no.

The Court: Would you like the question read?

The Witness: Yes.

(Question read.)

A. I will answer "Yes" on that, and then explain it this way: the well has shown to me satisfactorily that it was on a structure that they had tapped, a gas structure—at least gas—and if that well would give the evidence that I have seen on it, there would sure be additional wells drilled, and it would absolutely open a gas field of commercial quantities that would pay good money on the figure. It would be easily worth the price I put on the property.

Q. On the question that came up here the other day, Friday, didn't you testify as follows: Page 696, Counsel:

"Q. With respect to that one-eighth royalty interest of Mary Faria in the 208.83 acres of land taken by the Government from Cal-Bay Corporation, being a portion of Parcel 59, have you any opinion as to the fair market value of that royalty interest as of January 15, 1945?

"A. I have.

"Q. What is that opinion?

"A. Well, I valued that 208 acres, \$200 an acre, \$41,600."

(Testimony of William G. Bradford.)

This is Mr. Scampini's question:

“Q. When you say you valued those 208 acres——

“A. That is the royalty, the twelve and a half per cent, [735] all the woman would ever get out of it if it was put on production.”

You so testified, didn't you?

A. I certainly did.

Q. In other words, you have arrived at your figure there on an estimation of so much gas, so much life, and how much in all the lady would get out of it for her one-eighth royalty interest and have given us a figure, haven't you?

A. I meant when the man bought that he would buy whatever was there, whether it would produce a million dollars or whether it would produce a dime. He took the chance when he bought that.

Q. You are basing all these valuations upon an assumption of a volume of gas down there projected on the blowout and the tendency that you observed in this well to resume blowing out that mud, didn't you?

A. No, not all of it.

Q. What else?

A. I based it this way, that I could have sold it at that time with the experience I seen and know, that there would have been buyers at that time at that price.

Q. Was there anybody there asking to buy it?

A. No, I didn't try to find anybody to buy it. I didn't have a chance to.

(Testimony of William G. Bradford.)

Q. Did you know anybody there seeking leases from these adjoining land owners on this structure, John Faria and Dutra?

A. I didn't have a chance. I would have bought some of it for Mr. Bender. I will tell you that.

Q. You did not see anybody trading up there looking for leases, did you?

A. I did not, no, sir.

Mr. Bourquin: That is all.

Further Redirect Examination

By Mr. Scampini:

Q. Mr. Bradford, did you observe whether or not all the available or substantially all the available acreage on that structure was then under lease to either Cal-Bay Corporation or Joseph Faria?

Mr. Bourquin: I object to that.

The Witness: Mr. Faria told me he had that structure leased up.

Mr. Bourquin: I object to that and move to strike the answer as hearsay.

Mr. Scampini: If he knows. The question was asked of him, "Did you try to sell any acreage? Did you try to buy acreage? Did you see anyone trying to lease acreage?" If your Honor please, if it is already under lease to the parties defendant in this case, it certainly has a bearing on the reasons why somebody was not present seeking to make new leases or buying them.

The Court: That is, of course, argumentative, Counsel. The witness has testified as to what in

(Testimony of William G. Bradford.)

his opinion the leases would sell for. It would not make any difference who owned them, would it?

Mr. Scampini: That is correct. Nevertheless, it has a [737] bearing on the question of Counsel on cross-examination.

The Court: I will allow the question.

The Witness: Will you read the question for me?

The Court: He wants to know whether you knew all these leases were in the hands of either Cal-Bay or, who else was it?

Mr. Scampini: Joseph Faria.

The Witness: Mr. Faria told me, your Honor, that he had the interest: "I think I got the whole structure leased up."

Mr. Scampini: No further questions.

The Court: I just wanted to ask a question about this royalty.

Q. You valued the 12½ per cent interest of Marie Faria in this lease, you told me the other day, at \$41,600. That is about at the rate of \$3,500 a per cent, isn't it?

The Witness: Your Honor, I figured it at \$200 an acre to buy the entire 12½ per cent, if she was going to sell her entire interest.

The Court: If she had a 12½ per cent interest you were going to buy it for \$41,600, that would be at the rate of about \$3,500 a per cent?

A. That is right.

The Court: Where has anybody in California

(Testimony of William G. Bradford.)

ever paid \$3,500 a per cent for a landlord's interest in a gas lease where the land was not proven?

A. Your Honor, I just sold one—— [738]

The Court: Can you answer that?

A. Yes, I have bought it and sold it for that.

The Court: Where was this?

A. I sold one, a wildcat drilling, sold it to the Seaboard Oil, a matter of record here, in the last three months, \$3,500 for one per cent in three and a half acres.

The Court: Unproven land?

A. It was unproven, your Honor.

The Court: Will you tell me who made that lease, the parties to it, and when it was done?

A. Yes, sir, I will. The Petroleum Corporation and the Producers Oil are owners. They are San Francisco people here.

The Court: Are you telling me that the Seaboard Oil Company pay you \$3,500 a per cent for a lessor's royalty in an unproved piece of land?

A. Your Honor, Mr. Scampini——

The Court: Just answer that question.

A. Yes, sir, they paid more than that.

The Court: The Seaboard Oil Company for a lessor's interest paid \$3,500 a per cent for an unproved piece of land?

A. Yes, sir, they did.

The Court: I just can't believe you are telling the truth on that.

Mr. Scampini: Your Honor, I will cite your Honor to the corporation permit on the subject

(Testimony of William G. Bradford.)

before the Corporation Department. I will give your Honor the number of the [739] transaction.

The Court: I asked a very definite question of the witness and he has answered it. We will leave it go at that.

The Witness: I certainly did.

Mr. Scampini: We offer to prove at this time the records of the transaction and bring the records of the transaction and offer them in evidence. One per cent, if it please the Court, sold for over \$6,400, one per cent in three and a half acres. The nearest well being drilled was a mile and a half away, and it ended up in a dry hole, your Honor, and the *Seaboard* the cash to the Corporation Department in November of last year.

The Court: For a lessor's—

Mr. Scampini: For a lessor's interest of one per cent.

The Court: Well, I do not know what has happened to our Corporation Department in the State of California. That is all I can say.

Mr. Scampini: If it please the Court, the *Seaboard Company*—

The Court: I am sorry to have made this comment. I will tell the Jury to disregard it. It is just a comment of the Court.

Mr. Scampini: I ask now to offer evidence in support of the statement of Mr. Bradford in answer to your Honor's question, and I also protest for the purpose of the record, your [740] Honor's comments in respect to the Corporation Department as being prejudicial to our case before this Jury.

(Testimony of William G. Bradford.)

The Court: I will tell the Jury to disregard the Court's statement. The comment of the Court was on the weight of the evidence and the Jury is not bound by it. The Jury can decide the case if and when it comes time for the Jury to decide the case, according to their own lights and according to the instructions the Court may give them at the time. The Court, of course, has a right to make comments as to the weight of the evidence, but the Jury is not bound by what the Court says in that regard. It may form its own judgment. Does that instruction cover what you have in mind?

Mr. Scampini: Yes, your Honor. Thank you.

No further questions of the witness.

Mr. Bourquin: No further questions.

The Court: That is all.

Mr. Bourquin: We will ask Mr. Wents a question on further cross-examination.

JOHN H. WENTS, JR.

recalled as a witness on behalf of Defendants; and having been previously sworn, testified as follows:

The Clerk: State your name for the record, please.

A. John H. Wents, Jr. [741]

Further Recross-Examination

By Mr. Bourquin:

Q. Mr. Wents, have you ever bought or sold any rights in gas exploration in northern California?

A. No, I have not.

(Testimony of John H. Wents, Jr.)

Q. Are you familiar with the exploration for gas in the various fields by major companies in northern California? A. I believe I am.

Q. When you made the assertion here that the leasehold interest to Cal-Bay in Parcel 59 was worth \$1,000 an acre, what did you predicate that on?

A. I did not use the term \$1,000 an acre that I remember.

Q. How much an acre did you estimate that leasehold was worth?

A. I believe it was in the neighborhood of \$800 or \$850 an acre.

The Court: That is right, \$850 an acre.

The Witness: I believe that is what it was.

Q. (By Mr. Bourquin): What did you predicate that on, Mr. Wents?

A. My knowledge of the trading prices of lands.

Q. How do you fix your figure of \$850 an acre rather than \$85 an acre or \$8.50 an acre? Tell us what is your predicate.

A. Based upon what I think are comparative sales between people who have a knowledge of what they are trading in. I do not mean that such a price perhaps as I have given would be arrived at between the ordinary landowner who is unfamiliar with what he has and the oil company. I am basing it on a [742] deal between people who have a knowledge of what they are trading in, that is, a buyer and a seller both having a knowledge.

(Testimony of John H. Wents, Jr.)

Q. Where in the field of gas exploration in northern California, in the process of exploration, have you a predicate for those figures?

A. I do not know where there is any predication for those figures with respect to gas exploration. However—may I explain—I did not limit the possibilities to gas exclusively.

Q. You mean by that you did not limit the possibilities of this property to gas exclusively?

A. No, I did not.

Q. Do you know what the experience of the Richfield Oil was over at Potrero Hills?

A. I believe I have in my report comments concerning the Richfield's work in Potrero Hills.

Q. Do you know where it is? A. Yes.

Q. Where is it?

A. It shows on the map of California oil fields.

Q. Will you show us that, please? Which do you want to see?

A. The map of California oil fields.

Q. Will you point out to us the Potrero Hills district where Richfield made its explorations?

A. Potrero Hills is north of Suisun Bay.

Q. Are you marking it now or is it marked on your map? A. It is marked on the map.

Q. Which is it?

A. (Indicating): At that position there. [743]

Q. The point that you are indicating here on the map, is that correct?

A. Yes. That would be in Township 4 North and Range 1 West.

(Testimony of John H. Wents, Jr.)

Q. What is this larger block here to represent?
Another field?

A. I think that is the Kirby Hills derrick in there.

Q. Where is this Honker Bay that we talked about?

A. The Honker Bay I believe is this well in here (indicating).

Q. So we can locate Potrero Hills by going back in the sloughs there, back up the sloughs to the point you have indicated on there?

A. It is about five or six miles north.

Q. Do you know what that rights were to be bought and sold for as of the time of this taking, Mr. Wents?

A. No, I do not.

Q. Do you know that they were to be bought for a dollar an acre?

A. From whom and by whom? No, I do not know; but from whom and by whom?

Q. They were to be bought from the landowner, but the "by whom" had not appeared.

A. Well, there is lots of lands offered in that fashion.

Q. Are you familiar with the Ohio Oil Company's exploration up there in those three Willard wells they drilled?

A. I am to a measure, yes.

Q. Does that field show on your map?

A. I believe it does. The location of those wells will show on that map. [744]

Q. Have you marked on it out there?

(Testimony of John H. Wents, Jr.)

A. It would be in 20 North Range, about 1 West, it looks like.

Q. Is it marked in color on your map?

A. The Willows field is there (indicating).

Q. Those are the Willard wells?

A. Correct.

Q. Do you know what the rights in that field were to be bought for as of the time of this taking?

A. Do you mean from the landowner?

Q. Well, who ever owned them?

A. I have no knowledge.

Q. You made this map, did you not, Mr. Wents?

A. No, I did not.

Q. Who made it?

A. That was printed by the Southern California Blueprint Company from the tracing developed by James Bransford. All of the locations, all of the coloring on that map, with the exception of the shading in the vicinity of the ocean in that top righthand corner and the position of the Cal-Bay lands was made from the tracing in which we had no part in the preparation.

Q. Who located these colors on here to show us all these oil and gas fields up and down California?

A. I am sure I do not know who it was. Probably an employee of the Southern California Blueprint Company.

Q. You reviewed this map in your discussion of this question, did you not?

A. Oh, sure. I am very familiar with [745] the map.